HCD-E301

SERVICE MANUAL

AEP Model

Ver 1.1 2002.10

HCD-E301 is the amplifier, CD player, tape deck and tuner section in CMT-E301.

CD Section	Model Name Using Similar Mechanism	HCD-EP30
	CD Mechanism Type	CS-21SC-1280
TAPE Section	Model Name Using Similar Mechanism	HCD-EP30
	Tape Transport Mechanism Type	TCM125-2

SPECIFICATIONS

Amplifier section

DIN power output (rated) 4.5 + 4.5 W (4 Ω at 1 kHz, DIN)
Continuous RMS power output (reference) 5 + 5 W (4 Ω at 1 kHz, 10% THD)
Music power output (reference) 13 + 13 W

CD player section

System: Compact disc and digital audio system
Laser: Semiconductor laser (λ=780 nm) Emission duration: continuous
Frequency response: 20 Hz - 20 kHz (±0.5 dB)

Tape player section

Recording system: 4-track 2-channel stereo
Frequency response: 50 - 13 000 Hz (±3 dB), using Sony TYPE I cassette

Tuner section

FM stereo, FM/AM superheterodyne tuner

FM tuner section

Tuning range: 87.5 - 108.0 MHz
Antenna: FM lead antenna
Intermediate frequency: 10.7 MHz

AM tuner section

Tuning range: 531 -1 602 kHz (with the interval set at 9 kHz)
Antenna: Built-in ferrite bar antenna
Intermediate frequency: 450 kHz

General

Power requirements: 230 V AC, 50/60 Hz
Power consumption: 30 W
0.9 W (in the standby mode)
Dimensions (w/h/d): Approx. 145 × 238 × 238 mm
Mass: Approx. 2.8 kg

Design and specifications are subject to change without notice.

COMPACT DISC DECK RECEIVER

9-873-906-12
2002J0500-1
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Sony Corporation
Home Audio Company
Published by Sony Engineering Corporation

SONY®

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Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

Flexible Circuit Board Repairing

- Keep the temperature of the soldering iron around 270 ˚C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

CAUTION
Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

This appliance is classified as a CLASS 1 LASER product. The CLASS 1 LASER PRODUCT MARKING is located on the rear exterior.

The following caution label is located inside the unit.

CAUTION : INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCKS DEFEATED. AVOID EXPOSURE TO BEAM.
ADVARSEL : USYNLIG LASERSTRÅLING VED ÅBNING NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION. UNDGÅ UDSAETTELSE FOR STRÅLING.
VORSICHT : UNSICHTBARE LASERSTRAHLUNG. WENN ABDECKUNG GEÖFFNET UND SICHEREITSVERRIEGELUNG ÜBERBRÜCKT. NICHT DEM STRAHL AUSSETZEN.
VARO! : AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.
VARNING : OSYNLING LASERSTRÅLING NÄR DENNA DEL ÄR ÖPPNAD OCH SPÄRREN ÄR URKOPPLAD. BETRAKTA EJ STRÅLEN.
ADVERSEL : USYNLIG LASERSTRÅLING NÅR DEKSEL ÅPNES OG SIKKERHEDSLÅS BRYTES. UNNGÅ EKSPONERING FOR STRÅLEN.
VIGYAZAT! : A BURKOLAT NYITÁSAKOR LÁTHATATLAN LÉZERSUGÁRVESZÉLY! KERÜLJE A BESUGÁRZÁST!

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

SECTION 1
SERVICING NOTES

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

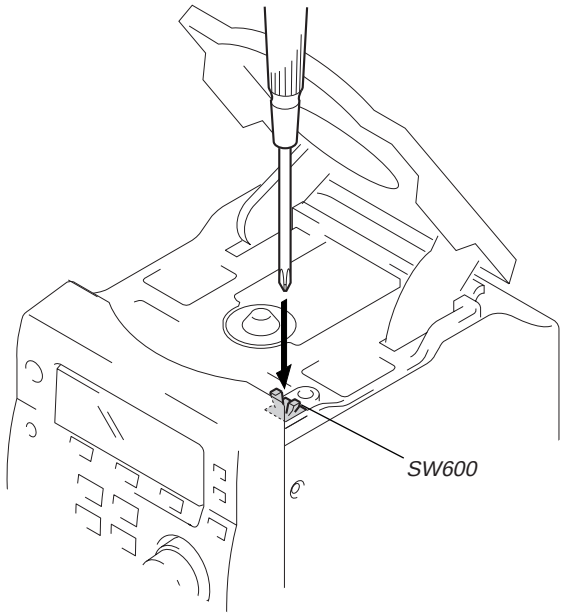
The laser diode in the optical pick-up block may suffer electrostatic break-down because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic break-down and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30 cm away from the objective lens.

LASER DIODE AND FOCUS SEARCH OPERATION CHECK

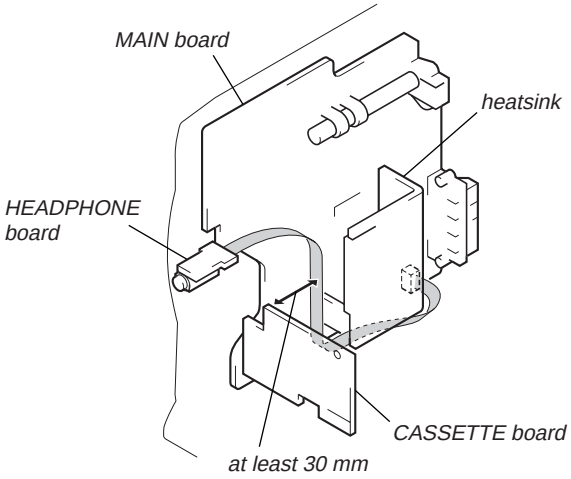
1. Press the I/⏻ button to the power ON with no disc inserted and press the CD button.
2. Open the lid for CD.
3. Turn on SW600 as following figure.
4. Confirm the laser diode emission while observing the objecting lens. When there is no emission, Auto Power Control circuit or Optical Pick-up is broken.
   Objective lens moves up and down five times for the focus search.



TO PREVENT 'TAPE OSCILLATION SOUND AT VOLUME' MAXIMUM SETTING (W/O TAPE)

Headphone wire dressing:

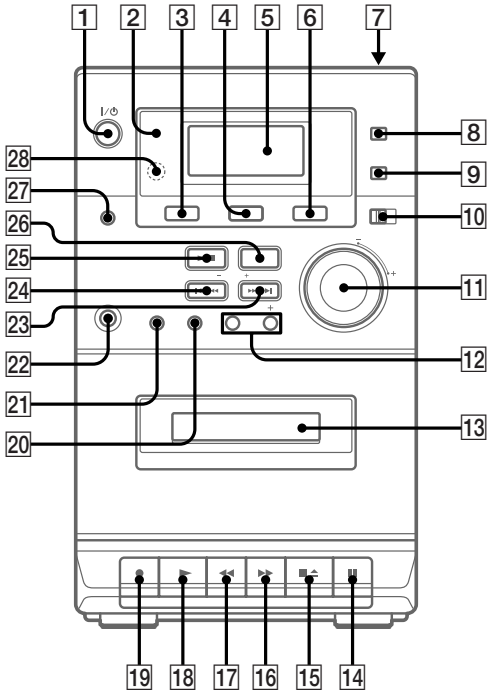
a.) Draw the wire from Main board to Headphone Jack board along the bottom side of heatsink.
b.) The wire must be kept away from the top side of Cassette board at least 30 mm.



SECTION 2
GENERAL

This section is extracted from instruction manual.

LOCATION OF CONTROLS
– Front Panel –



Cassette compartment 13 (12)
CD 4 (8, 9, 13, 15)
Display Window 5 (9, 18)
ENTER/PGM 20 (7, 8, 9, 10, 12, 15)
ISS 10 (13)
MEGA BASS 8 (14)
MONO STEREO 10 (11)
MUSIC MENU 9 (14)
PHONES jack 22
PRESET +/– 12 (10, 11)
REMAIN 4 (9)
Remote sensor 28
REPEAT 27 (8)
SHUFFLE 21 (8)
TAPE 3 (12)
TIMER indicator 2 (15)
TUNER 6 (10, 13, 15)
TUNER MEM 20 (10)
TUNING + 23 (10, 11)
TUNING – 24 (10, 11)
VOLUME control 11 (15)

BUTTON DESCRIPTIONS

I/⏻ (power) 1 (6, 10)

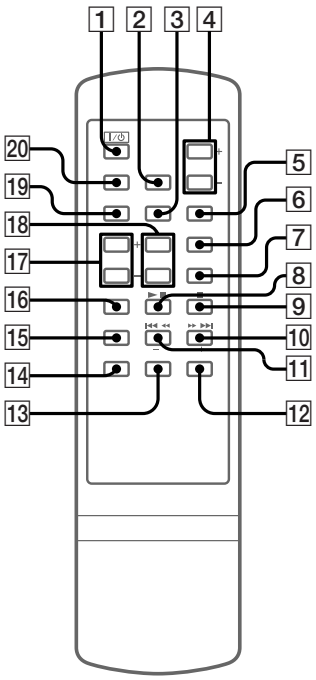
CD

I◄◄ ◄◄ (go back) 24 (8, 9)
►► ►►I (go forward) 23 (8, 9)
►II (play/pause) 25 (8, 9)
⏏ PUSH OPEN/CLOSE 7 (8)
■ (stop) 26 (8, 9)

TAPE

►► (fast forward) 16 (12)
II (pause) 14 (12, 13)
► (play) 18 (12, 15)
● (recording) 19 (13)
◄◄ (rewind) 17 (12)
■⏏ (stop/eject) 15 (12, 13)

Remote Control



CD/REMAIN 3 (8, 9, 13, 15)
CLOCK/TIMER/SLEEP SET 14 (7, 15)
MEGA BASS 2 (14)
MUSIC MENU 20 (14)
PRESET +/– 17 (10, 11)
REPEAT 12 (8)
SHUFFLE 7 (8)
TAPE 19 (12)
TIMER ON/OFF 13 (15)
TUNER/BAND 5 (10, 13, 15)
TUNER MEM/ENTER/PGM 6 (7, 8, 9, 10, 11, 15)
TUNING/CLOCK/TIMER +/– 18 (7, 10, 11, 15)
VOLUME +/– 4 (15)

BUTTON DESCRIPTIONS

▶▶ (fast forward) ▶▶I (go forward) 10 (8, 9)
I◀◀ (go back) ◀◀ (rewind) 11 (8, 9)
▶II (play/pause) 8 (8, 9)
I/⏻ (power) 1 (6, 10)
■ (stop) 9 (8, 9)

Setting the time

1 Turn on the system.

2 Press CLOCK/TIMER/SLEEP SET on the remote.

The clock indication appears.

3 Press TUNING/CLOCK/TIMER + or on the remote repeatedly to set the time.

4 Press ENTER/PGM (TUNER MEM/ ENTER/PGM on the remote).

The clock starts working.

Tip

If you made a mistake, perform from step 2.

To change the preset time

Perform from step 2.

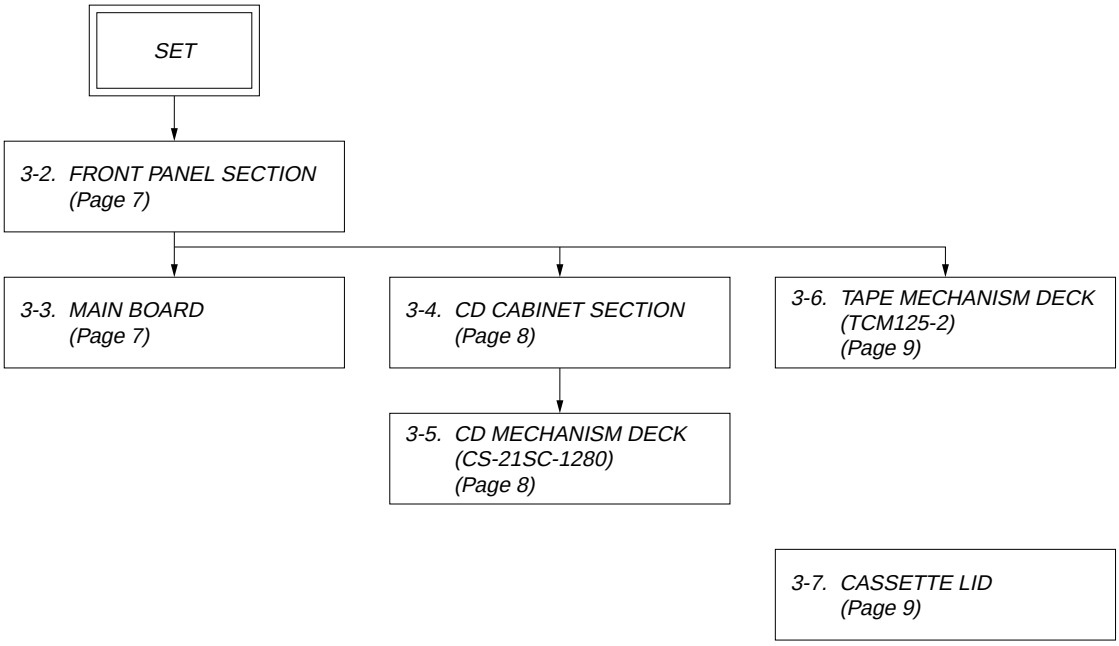
Note

The clock settings are canceled when you disconnect the power cord or if a power failure occurs.

SECTION 3
DISASSEMBLY

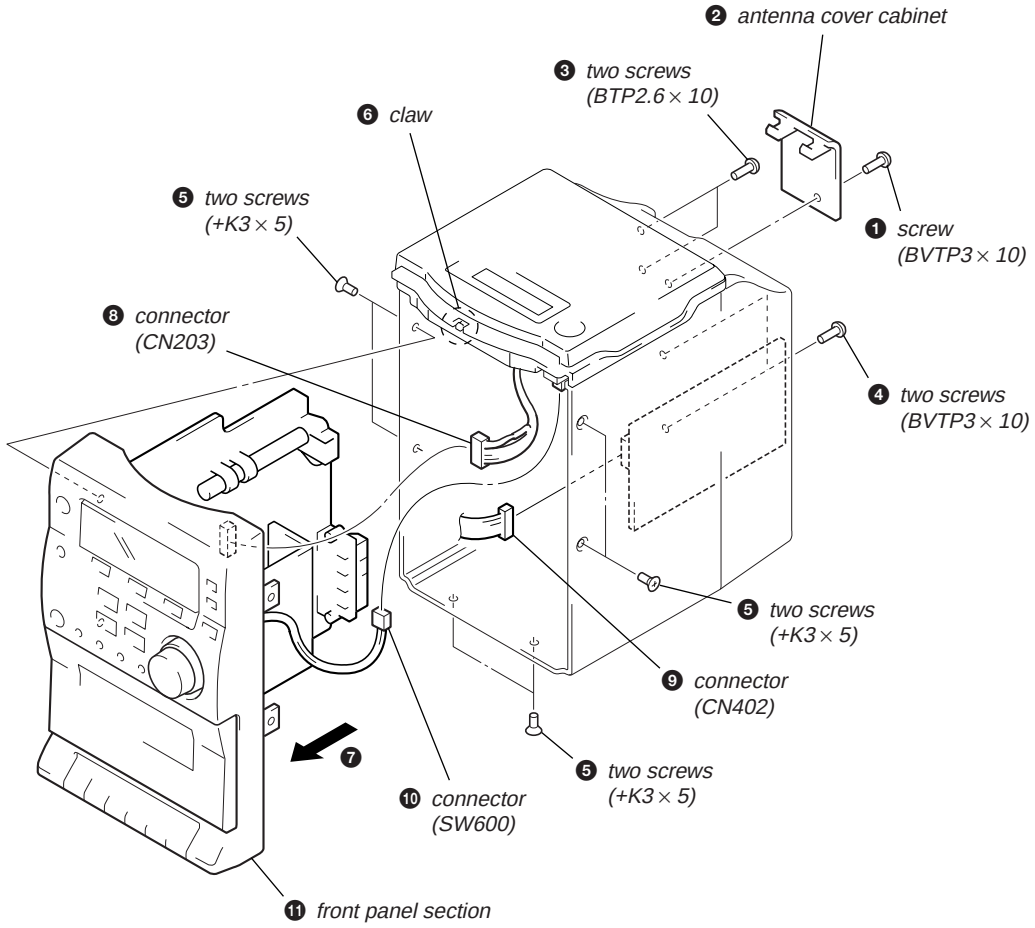
• This set can be disassembled in the order shown below.

3-1. DISASSEMBLY FLOW

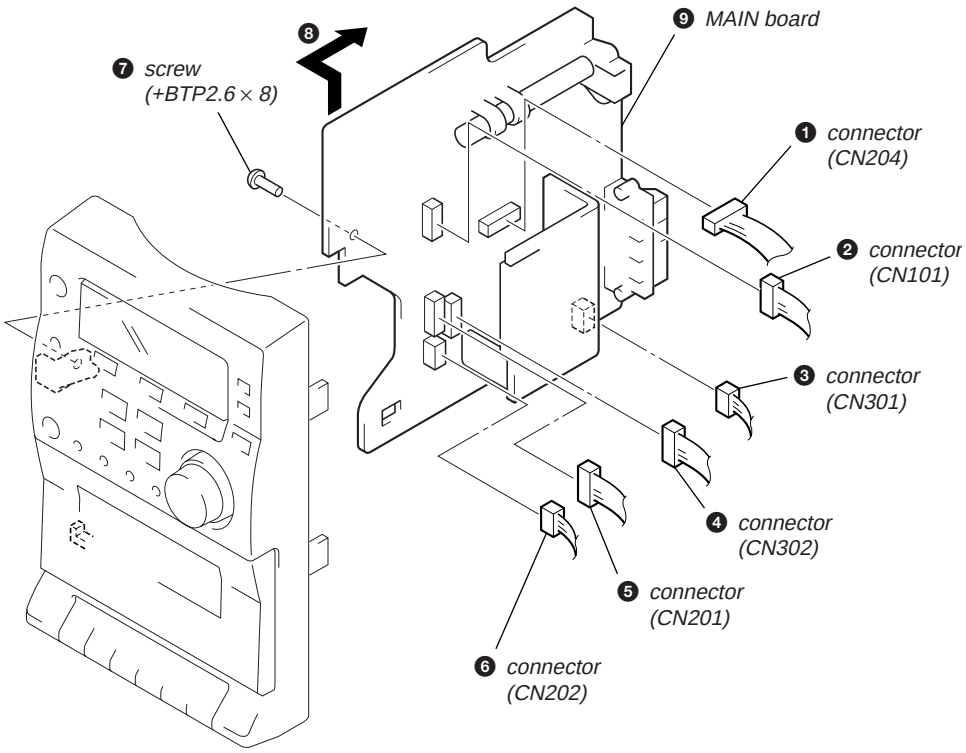


Note: Follow the disassembly procedure in the numerical order given.

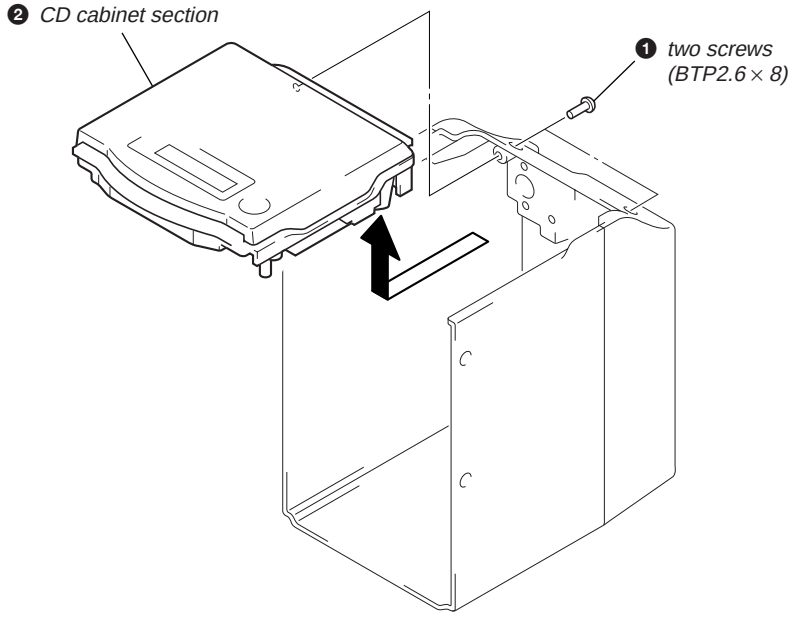
3-2. FRONT PANEL SECTION


❷ antenna cover cabinet
❸ two screws (BTP2.6 × 10)
❻ claw
❺ two screws (+K3 × 5)
❶ screw (BVTP3 × 10)
❽ connector (CN203)
❹ two screws (BVTP3 × 10)
❺ two screws (+K3 × 5)
❾ connector (CN402)
❼
❺ two screws (+K3 × 5)
❿ connector (SW600)
⓫ front panel section

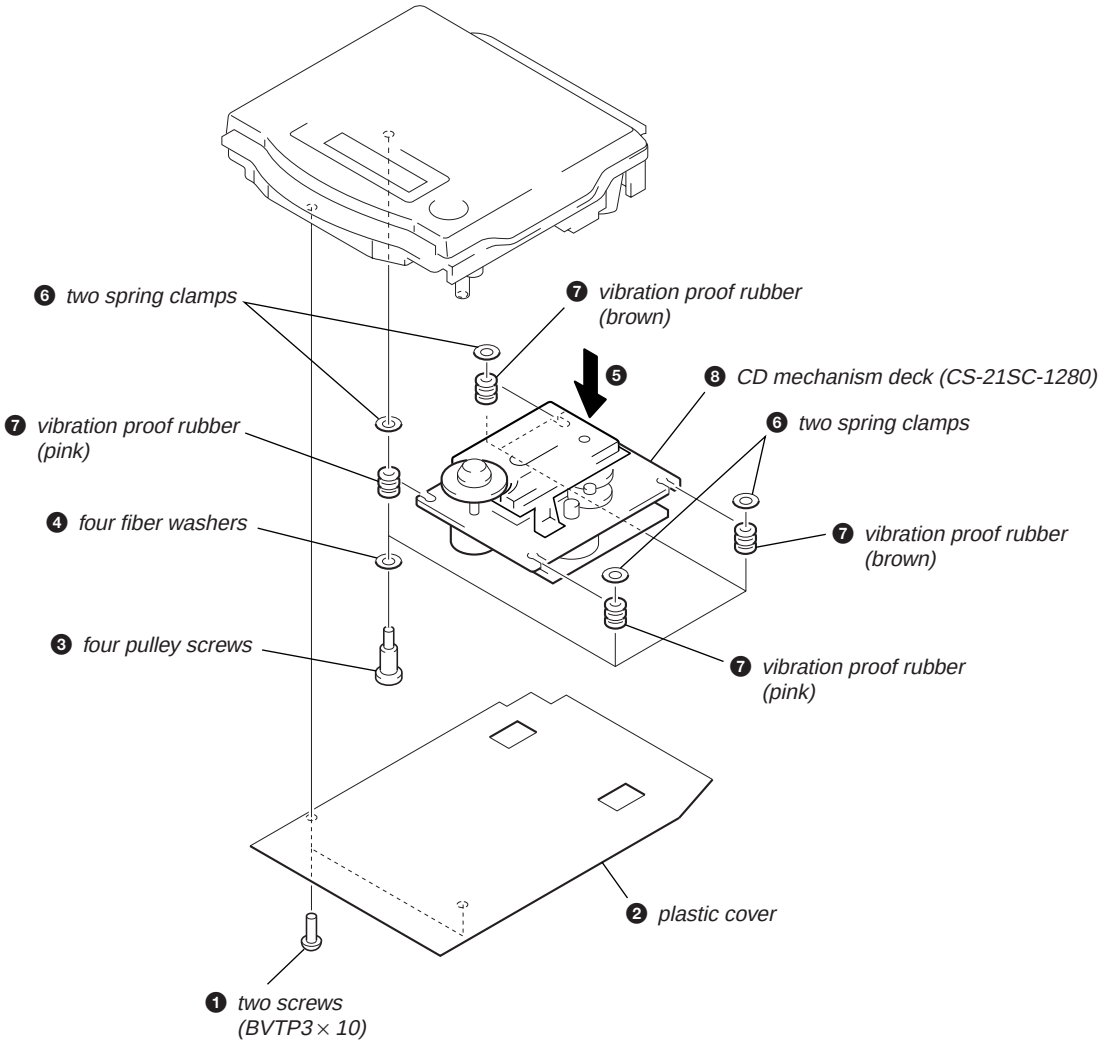
3-3. MAIN BOARD



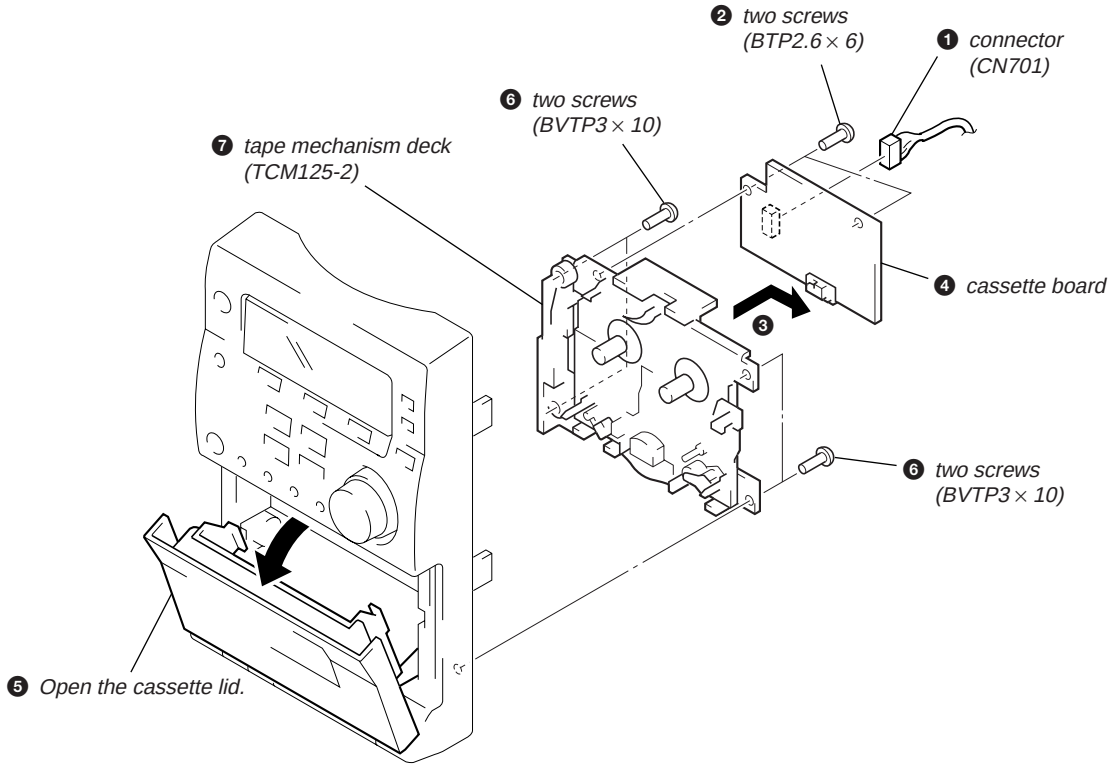
3-4. CD CABINET SECTION



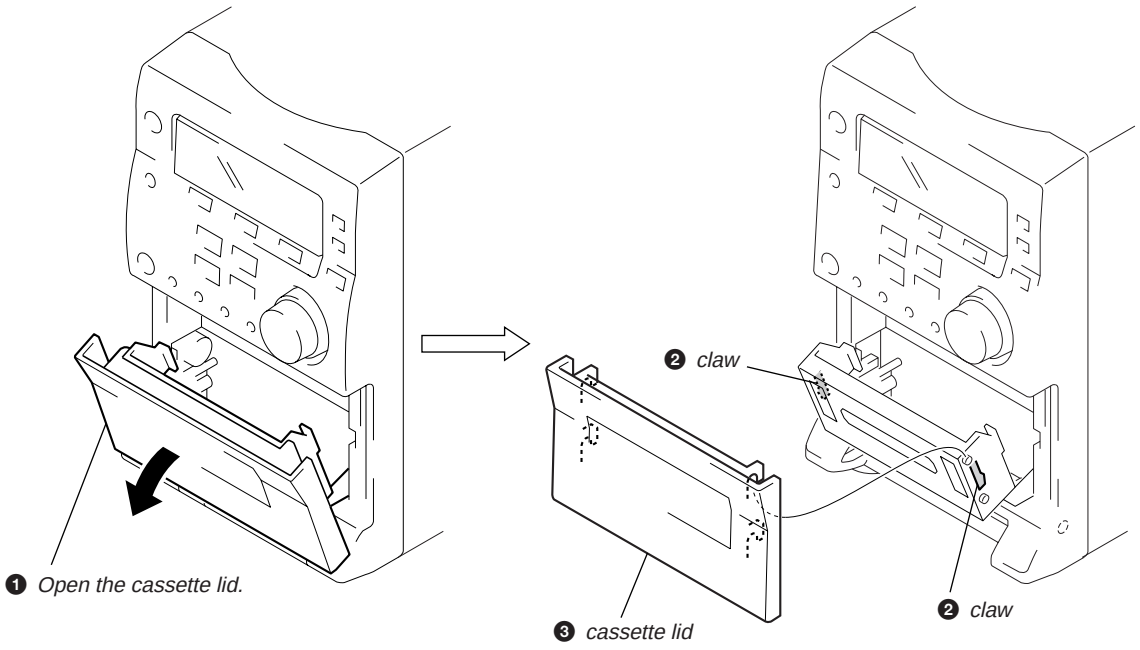
3-5. CD MECHANISM DECK (CS-21SC-1280)



3-6. TAPE MECHANISM DECK (TCM125-2)



3-7. CASSETTE LID



SECTION 4
MECHANICAL ADJUSTMENTS

PRECAUTION

1. Clean the following parts with a denatured-alcohol-moistened swab :
   record/playback head　　pinch roller
   erase head　　rubber belts
   capstan　　idlers
2. Demagnetize the record/playback head with a head demagnetizer. (Do not bring the head magnetizer close to the erase head.)
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage unless otherwise noted.

• Torque Measurement

Mode	Torque Meter	Meter Reading
FWD	CQ-102C	2.95 – 6.86 mN•m (30 – 70 g•cm) (0.42 – 0.97 oz•inch)
FWD Back Tension	CQ-102C	0.15 – 5.39 mN•m (1.5 – 5.5 g•cm) (0.021 – 0.076 oz•inch)
FF	CQ-201B	more than 5.89 mN•m (more than 60 g•cm) (more than 0.83 oz•inch)
REW	CQ-201B	more than 5.89 mN•m (more than 60 g•cm) (more than 0.83 oz•inch)

• Tape Tension Measurement

Mode	Tension Meter	Meter Reading
FWD	CQ-403A	more than 100 g (more than 3.53 oz)

SECTION 5
ELECTRICAL ADJUSTMENTS

PRECAUTION

1. Setting
   MEGA BASS switch : OFF

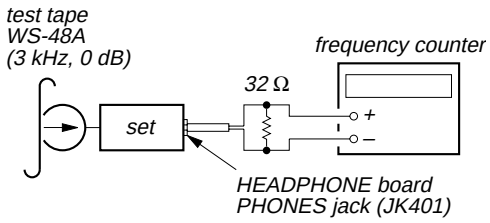
TAPE DECK SECTION | 0 dB=0.775 V

Test tape

Type	Signal	Used for
WS-48A	3 kHz, 0 dB	Tape Speed Adjustment
P-4-A063	6.3 kHz, –10 dB	Head Azimuth Adjustment

Tape Speed Adjustment

Setting:
Function: TAPE

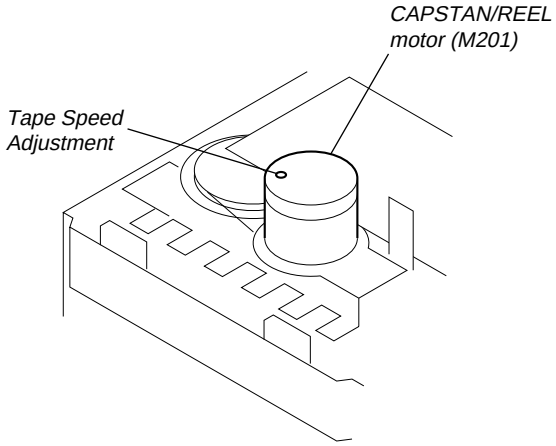


Procedure:
1. Playback WS-48A (tape center) in the FWD state.
2. Adjsut the volume in CAPSTAN/REEL motor (M201) so that the frequency counter reading becomes 3,000 Hz.

Specified Value: 2,985 to 3,015 Hz

3. Confirm that the frequency at the beginning and that at the end of tape winding are between 2,955 to 3,045 Hz.

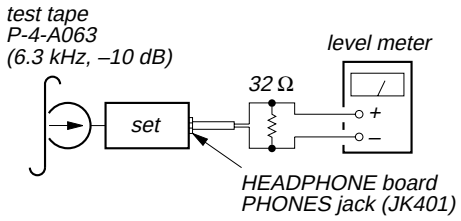
Adjustment Location:



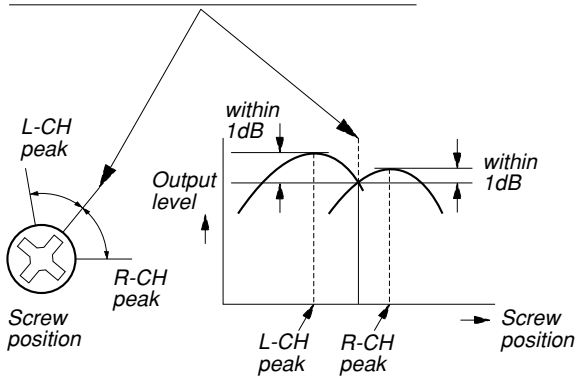
Record/Playback Head Azimuth Adjustment

Procedure:

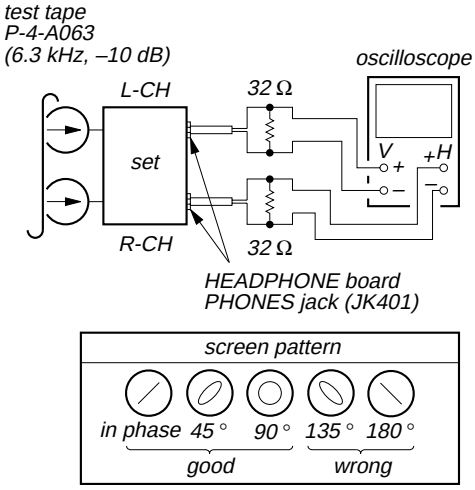
1. Mode: Playback (FWD)



2. Turn the adjustment screw and check output peaks. If the peaks do not match for L-CH and R-CH, turn the adjustment screw so that outputs match within 1dB of peak.

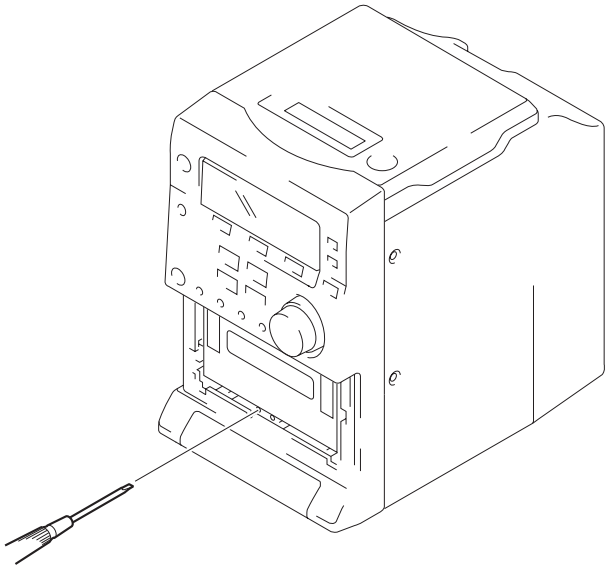


3. Mode: Playback (FWD)



4. Repeat step 1 to 3 in playback (REV) mode.
5. After the adjustments, apply suitable locking compound to the parts adjusted.

Adjustment Location: Record/Playback/Erase Head.



Note: Refer to "3-7. CASSETTE LID" (see page 9)

TUNER SECTION

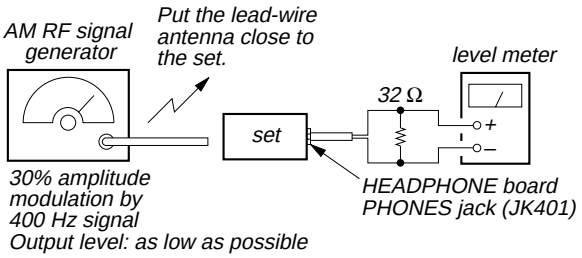
0 dB=1 µV

[AM]

Setting:

Function : TUNER

Band switch : AM

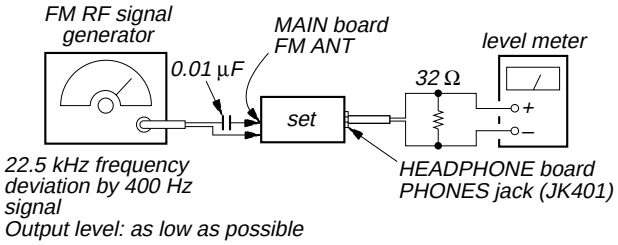


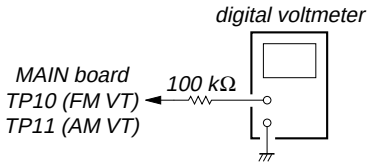
[FM]

Setting:

Function : TUNER

Band switch : FM





- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.

AM FREQUENCY COVERAGE ADJUSTMENT		
Adjustment Part	Frequency Display	Reading on Digital Voltmeter
Confirmation	531 kHz	1.5 ± 0.2 V
T102	1,602 kHz	7.3 ± 0.3 V

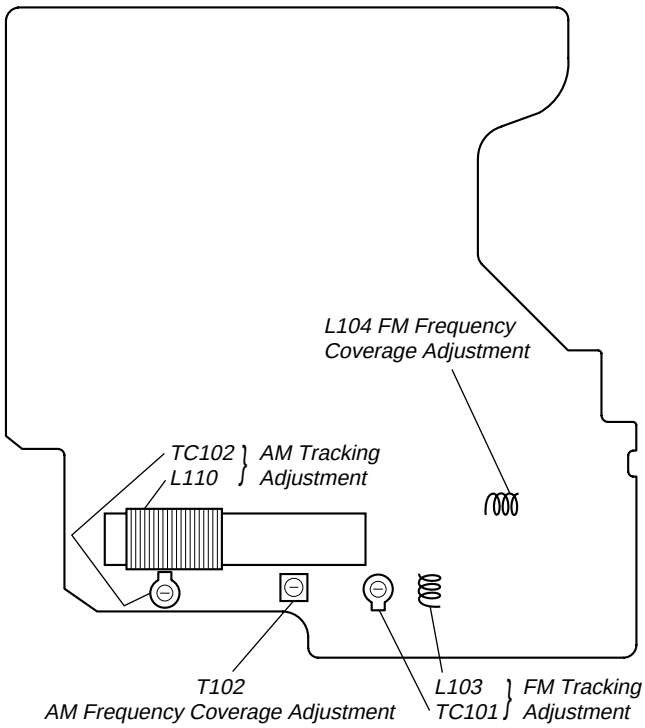
AM TRACKING ADJUSTMENT	
Adjust for a maximum reading on level meter	
L110	603 kHz
TC102	1,404 kHz

FM FREQUENCY COVERAGE ADJUSTMENT		
Adjustment Part	Frequency Display	Reading on Digital Voltmeter
L104	87.6 MHz	2.1 ± 0.2 V
Confirmation	108 MHz	7.0 ± 0.4 V

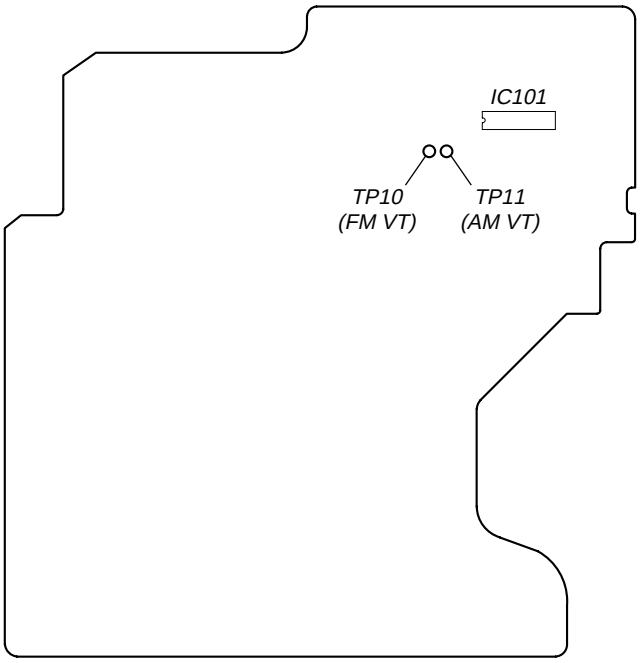
FM TRACKING ADJUSTMENT	
Adjust for a maximum reading on level meter	
L103	89.9 MHz
TC101	105.9 MHz

Adjustment Location and Connecting Points

– MAIN BOARD (Component Side) –



– MAIN BOARD (Conductor Side) –



SECTION 6
DIAGRAMS

6-1. NOTE FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

Note on Printed Wiring Board:
- : indicates side identified with part number.
- : Pattern from the side which enables seeing.

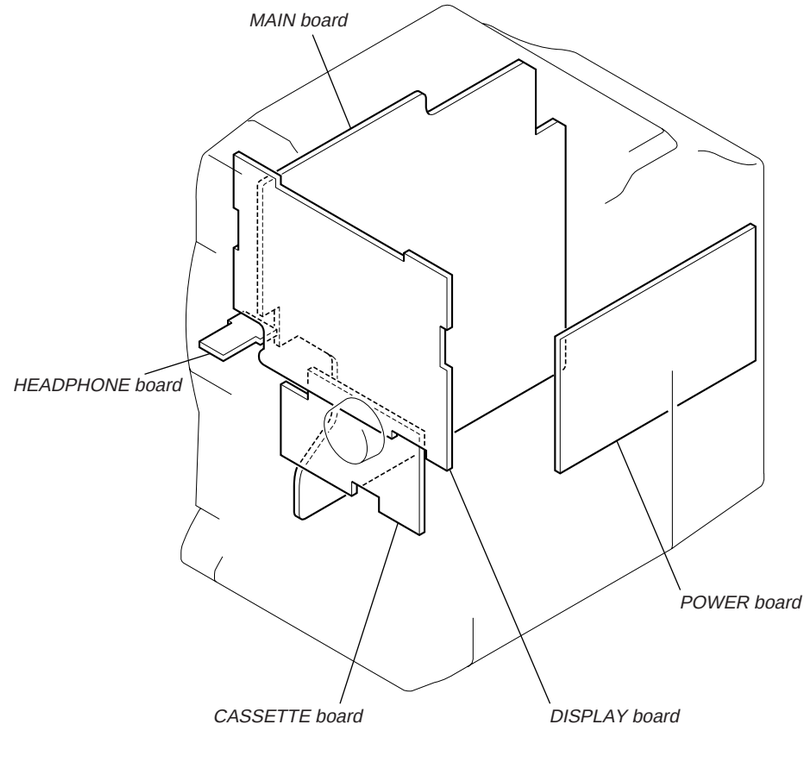
(The other layers' patterns are not indicated.)

Note on Schematic Diagram:
- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- : nonflammable resistor.
- : panel designation.

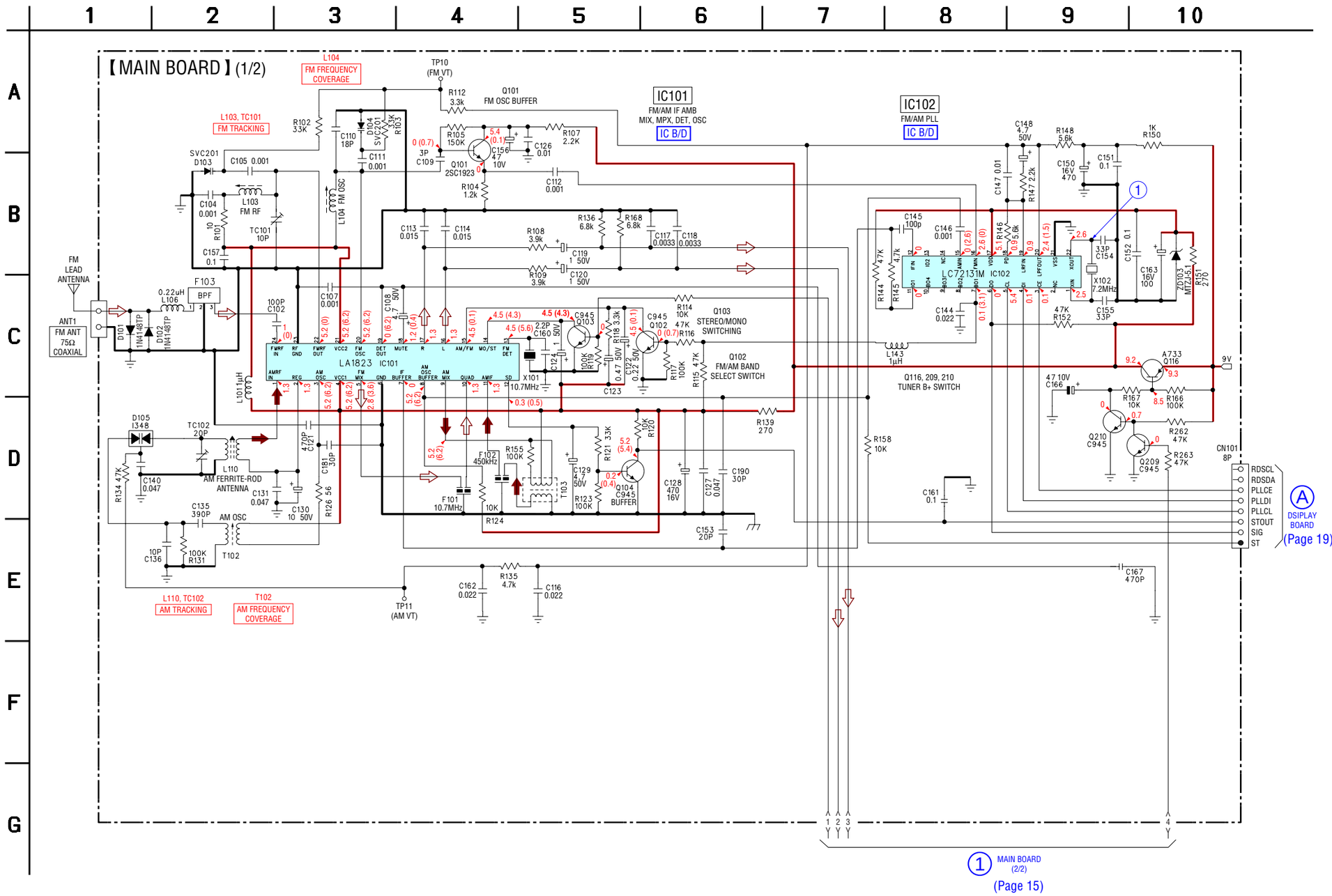
Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

- : B+ Line.
- : adjustment for repair.
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  - : FM
  - : AM
  - : TAPE PLAY
  - : RECORD
  - : CD PLAY

- **Circuit Boards Location**

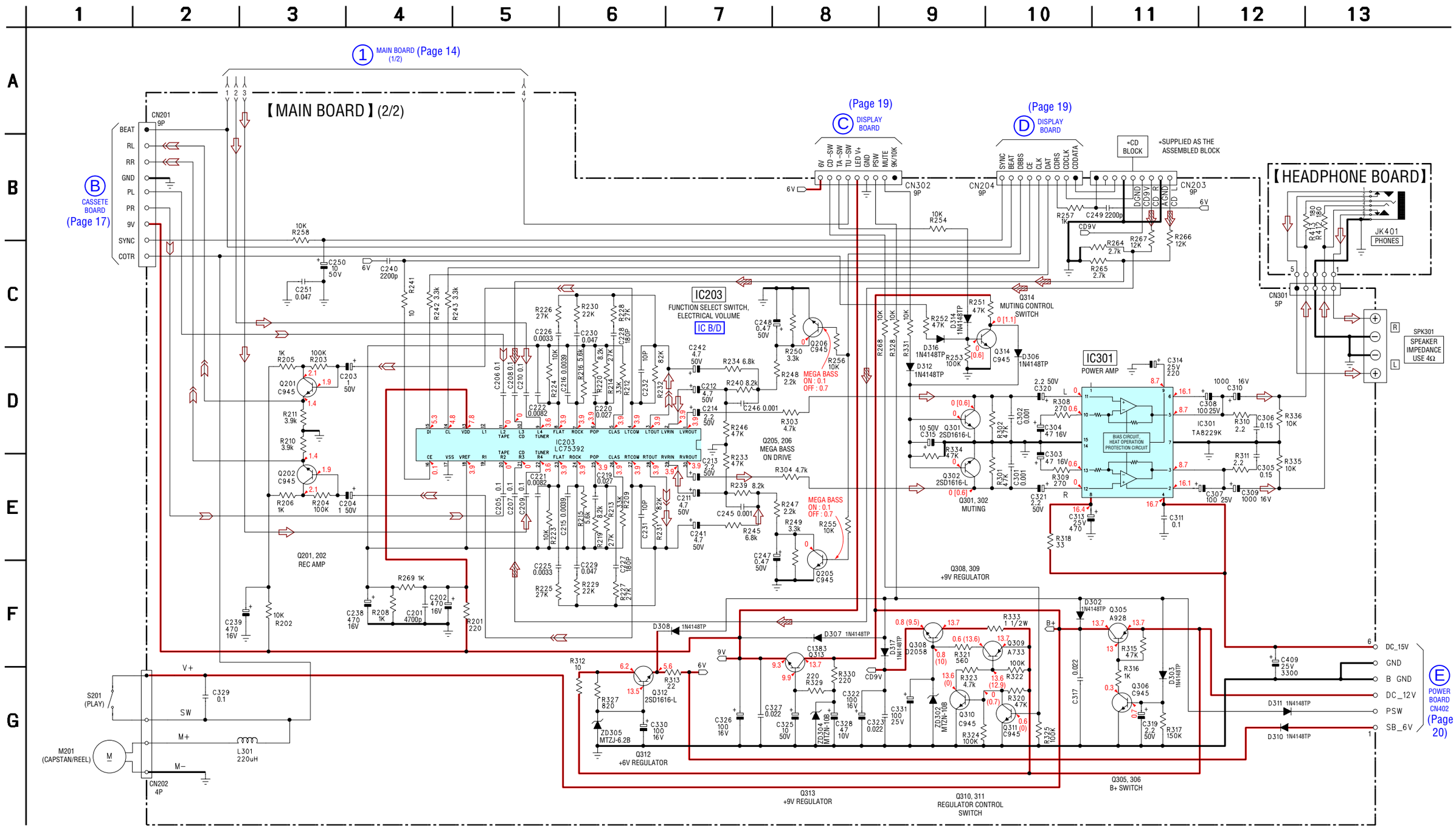


6-2. SCHEMATIC DIAGRAM – MAIN Board (1/2) – • See page 21 for Waveform. • See page 22 for IC Block Diagrams.



- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark : FM
  ( ) : AM

6-3. SCHEMATIC DIAGRAM – MAIN (2/2)/HEADPHONE Boards – • See page 22 for IC Block Diagram.



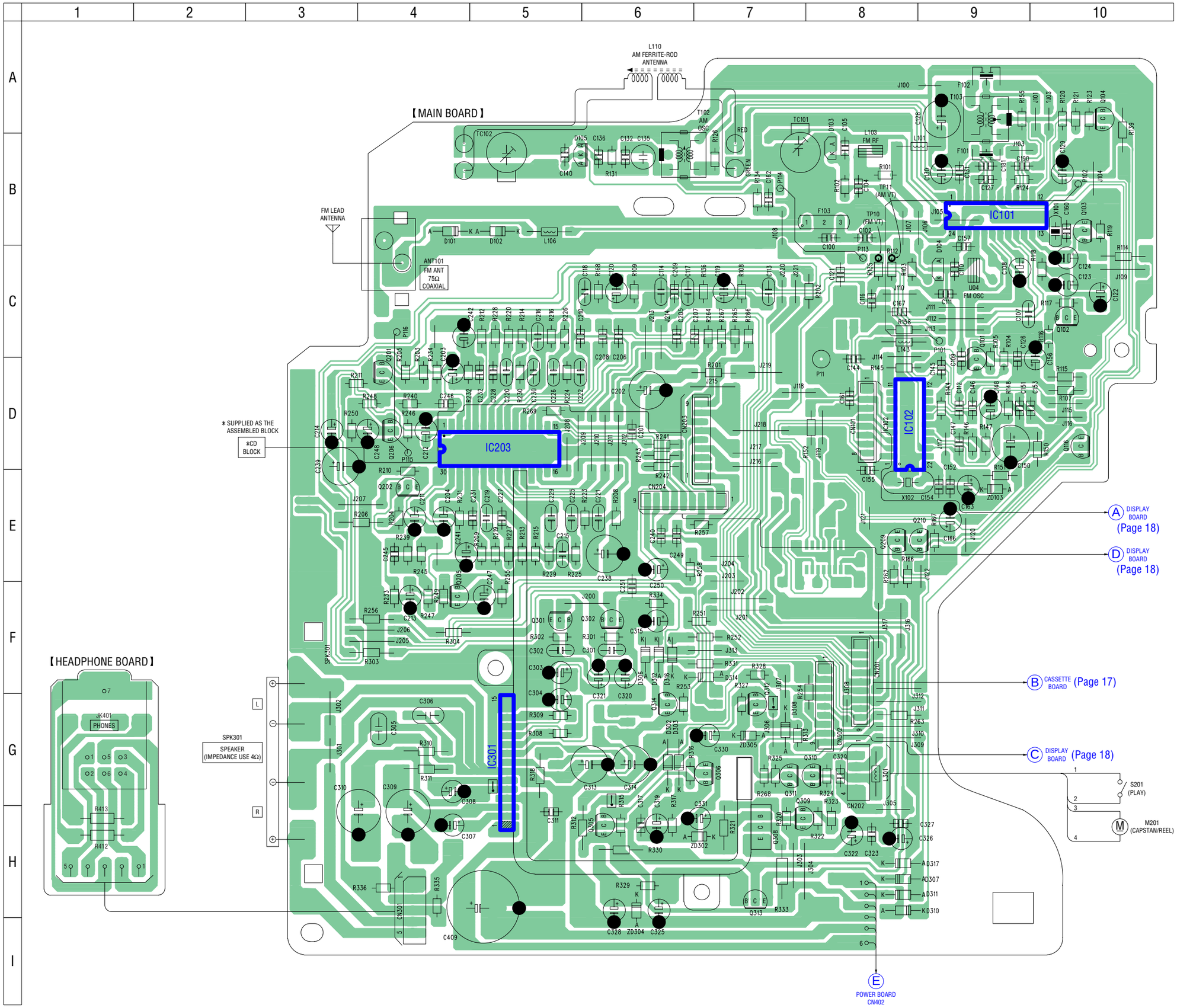
- Voltages are dc with respect to ground under no-signal (detuned) conditions.
  no mark : TUNER (FM/AM)
  ( ) : CD PLAY
  [ ] : TAPE PLAY

6-4. PRINTED WIRING BOARDS – MAIN/HEADPHONE Boards –

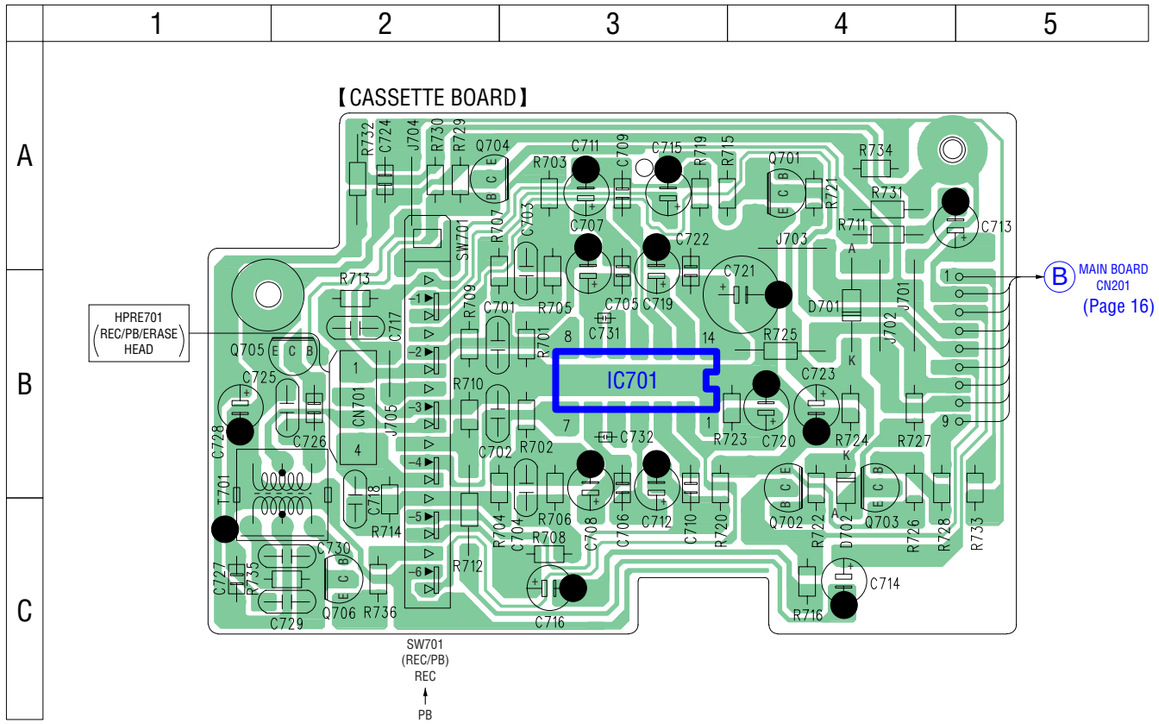
• See page 13 for Circuit Boards Location.

- **Semiconductor Location**

Ref. No.	Location
D101	B-4
D102	B-5
D103	B-8
D104	C-9
D105	B-5
D302	G-6
D303	G-6
D306	F-6
D307	H-8
D308	G-7
D310	H-8
D311	H-8
D312	F-6
D314	F-7
D316	F-6
D317	H-8
IC101	B-9
IC102	D-8
IC203	D-5
IC301	G-5
Q101	D-9
Q102	C-10
Q103	B-10
Q104	A-10
Q116	D-10
Q201	D-4
Q202	E-4
Q205	F-4
Q206	D-4
Q209	E-8
Q210	E-9
Q301	F-5
Q302	F-6
Q305	H-6
Q306	G-7
Q308	H-7
Q309	H-7
Q310	G-8
Q311	G-7
Q312	G-7
Q313	H-7
Q314	G-6
ZD103	E-9
ZD302	H-7
ZD304	H-6
ZD305	G-7



6-5. PRINTED WIRING BOARD – CASSETTE Board – • See page 13 for Circuit Boards Location.

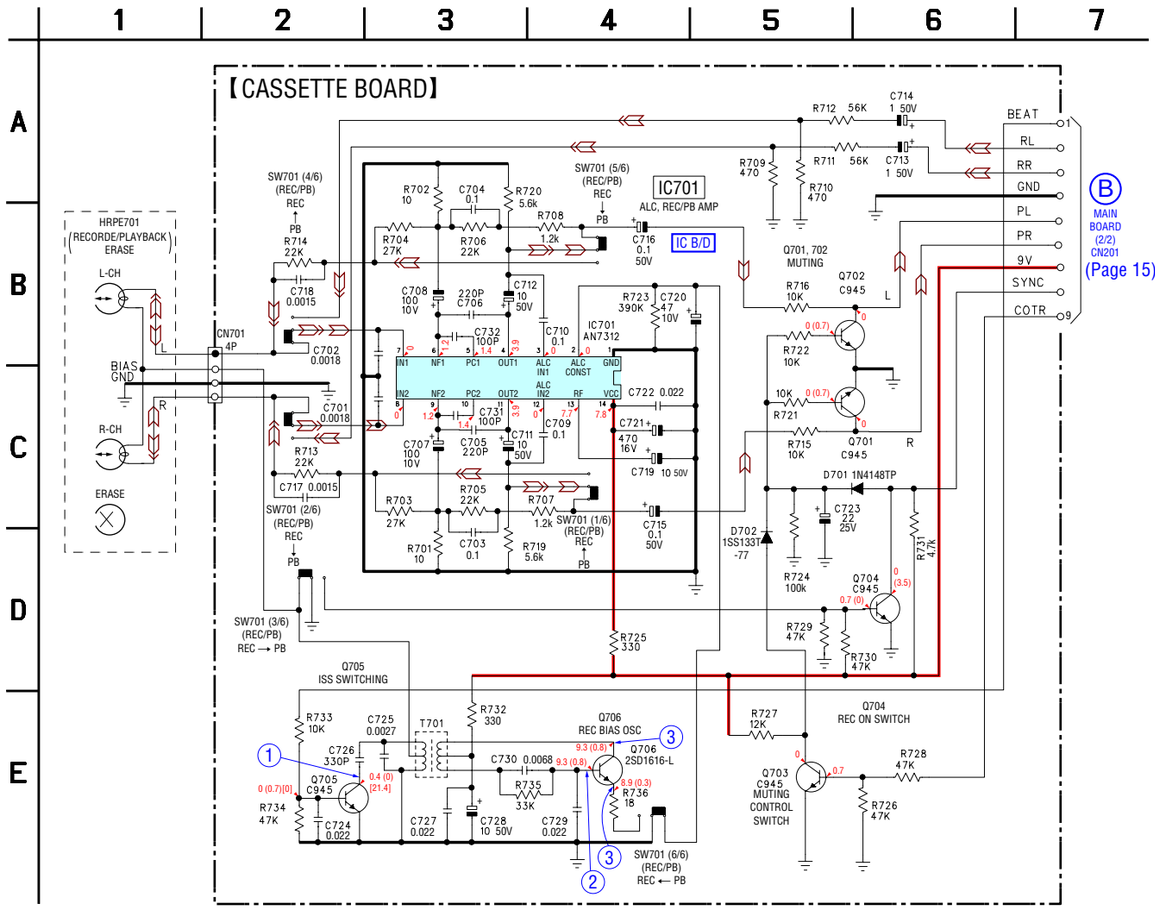


- **Semiconductor Location**

Ref. No.	Location
D701	B-4
D702	B-4
IC701	B-3
Q701	A-4
Q702	B-4
Q703	B-4
Q704	A-2
Q705	B-2
Q706	C-2

6-6. SCHEMATIC DIAGRAM – CASSETTE Board –

• See page 21 for Waveforms. • See page 22 for IC Block Diagram.



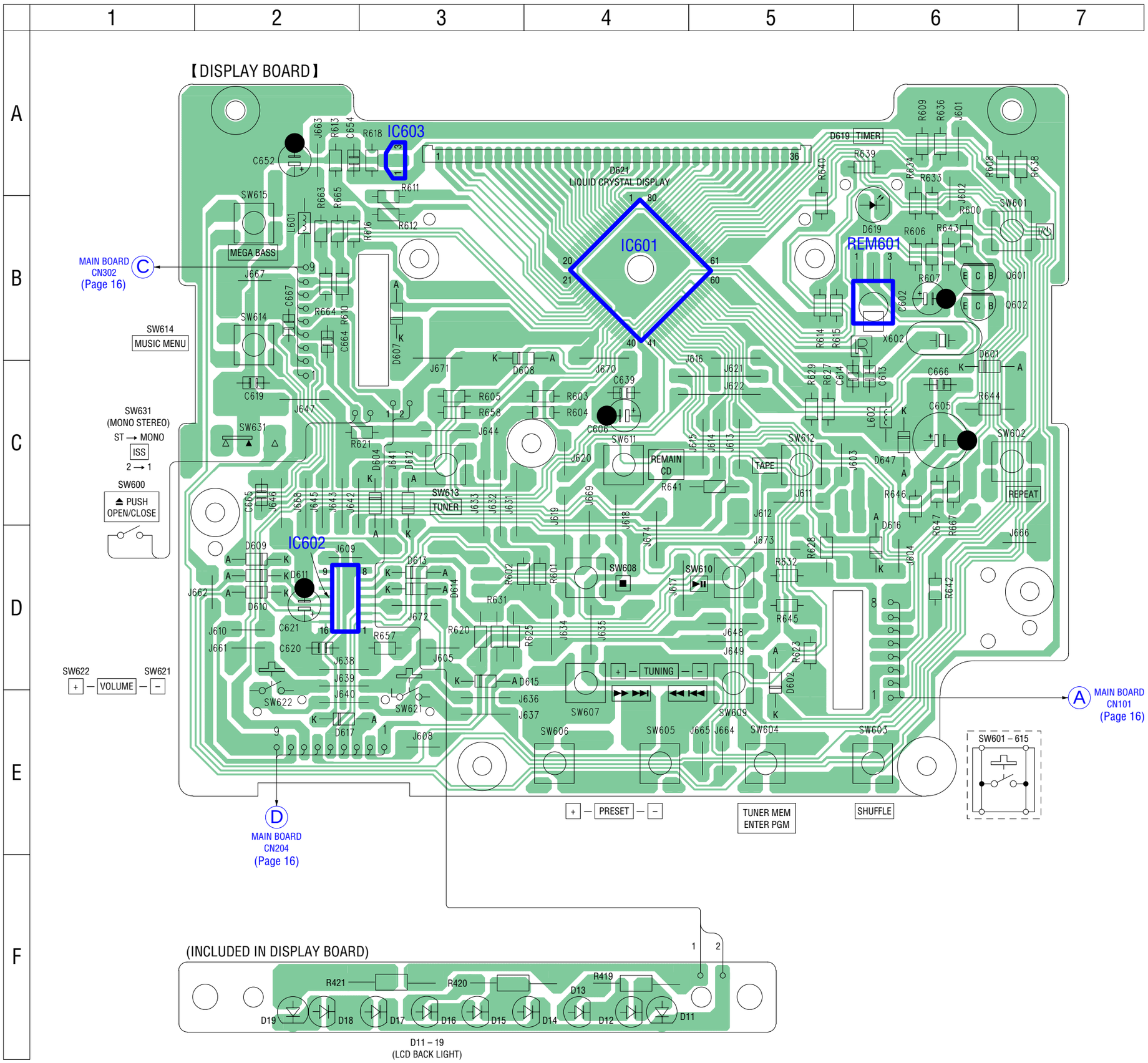
- Voltages and waveforms are dc with respect to ground under no-signal conditions.
  no mark : TAPE PLAY
  ( ) : RECORD (ISS 1)
  [ ] : RECORD (ISS 2)

6-7. PRINTED WIRING BOARD – DISPLAY Board –

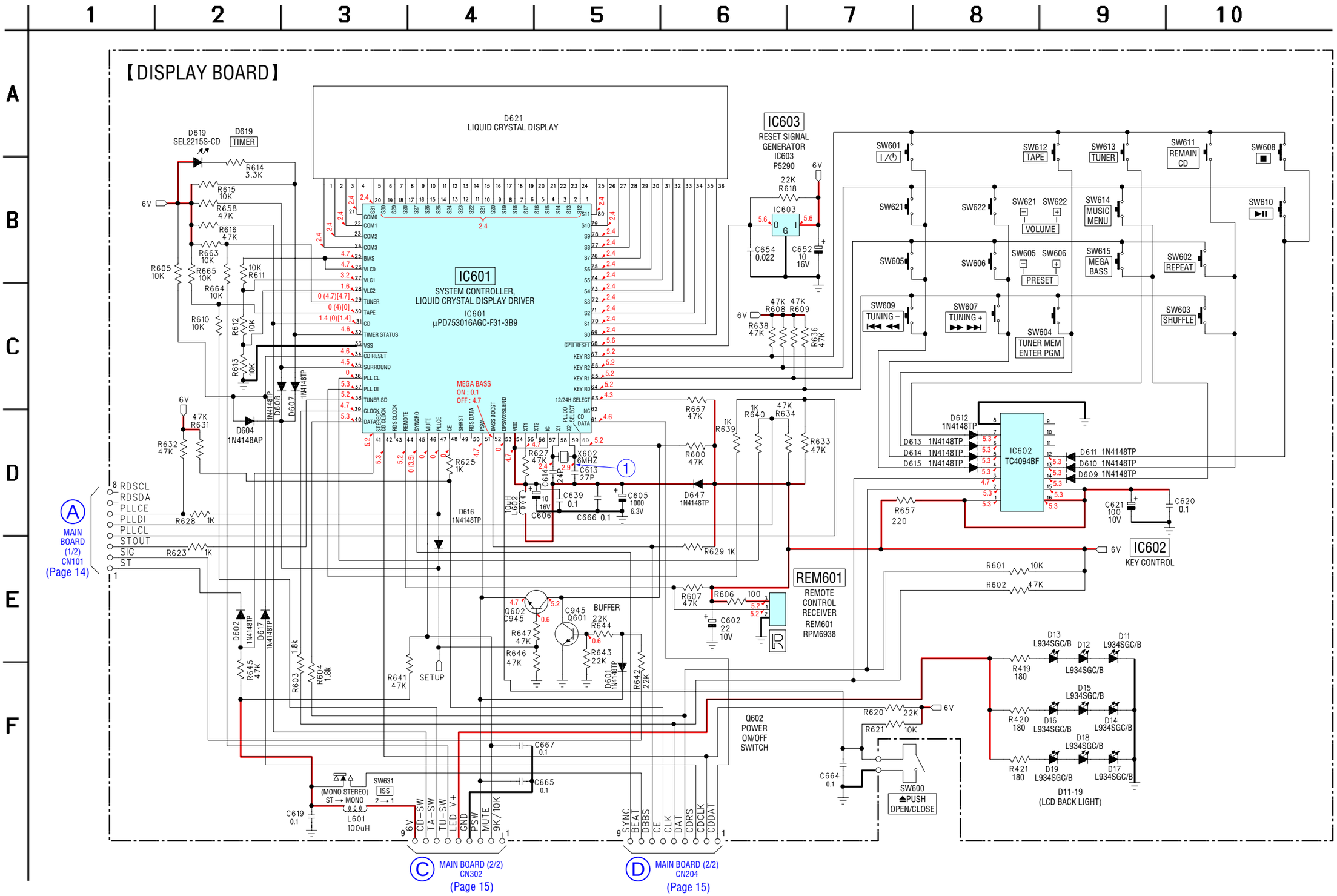
• See page 13 for Circuit Boards Location.

• **Semiconductor Location**

Ref. No.	Location
D11	F-4
D12	F-4
D13	F-4
D14	F-4
D15	F-3
D16	F-3
D17	F-3
D18	F-2
D19	F-2
D601	C-6
D602	D-5
D604	C-3
D607	B-3
D608	B-3
D609	D-2
D610	D-2
D611	D-2
D612	C-3
D613	D-3
D614	D-3
D615	D-3
D616	D-6
D617	E-2
D619	B-6
D647	C-6
IC601	B-4
IC602	D-2
IC603	A-3
Q601	B-6
Q602	B-6
REM601	B-6

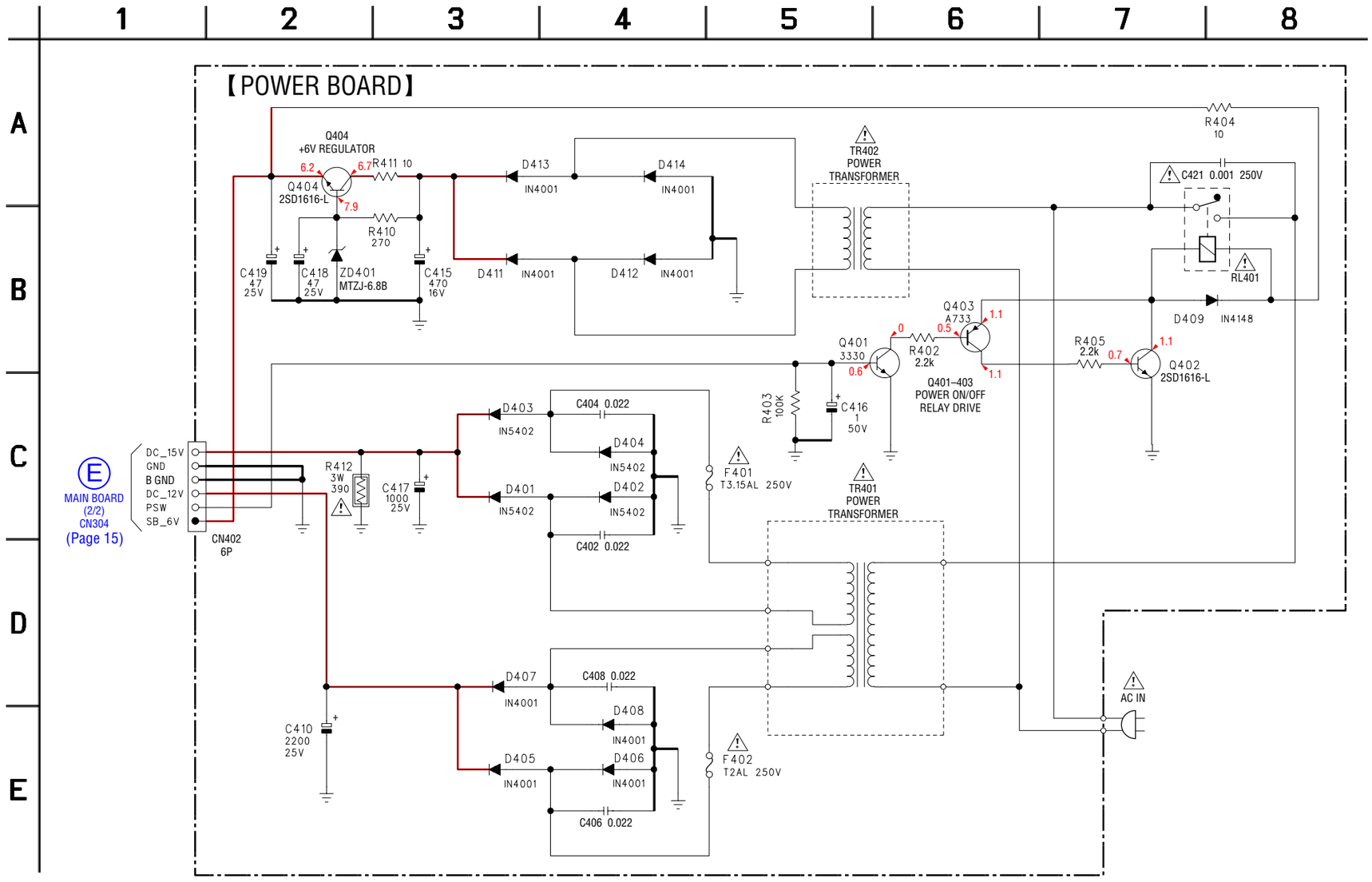


6-8. SCHEMATIC DIAGRAM – DISPLAY Board – • See page 21 for Waveform.



- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark : TUNER (FM/AM)
  ( ) : CD PLAY
  [ ] : TAPE PLAY
  { } : RECORD

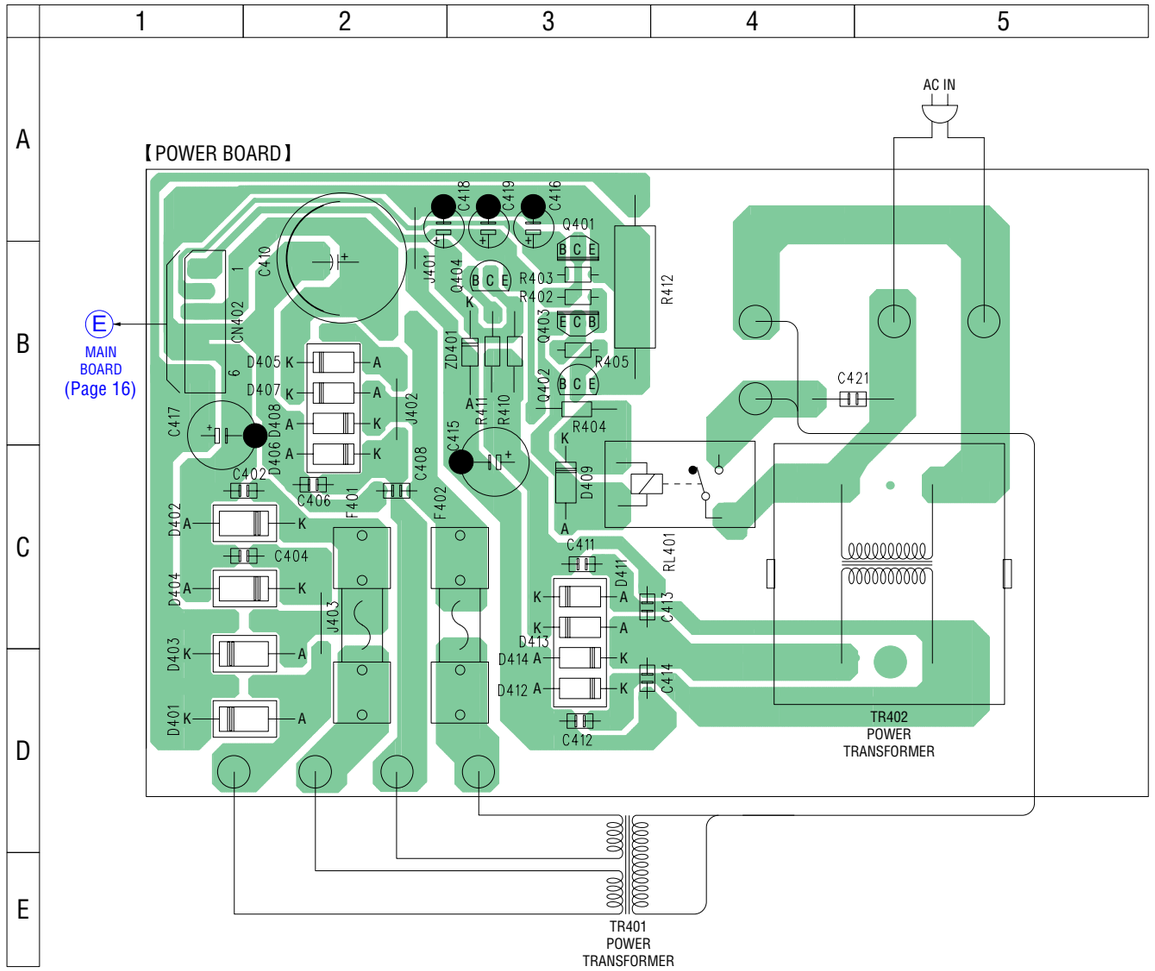
6-9. SCHEMATIC DIAGRAM – POWER Board –



- Voltages are dc with respect to ground under no-signal conditions.
  no mark : TUNER (FM/AM)

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

6-10. PRINTED WIRING BOARD – POWER Board – • See page 13 for Circuit Boards Location.



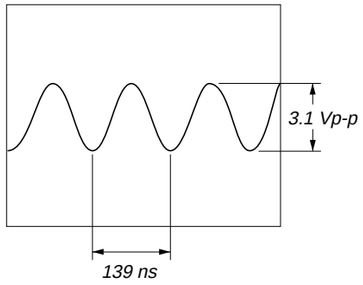
• **Semiconductor Location**

Ref. No.	Location
D401	D-1
D402	C-1
D403	D-1
D404	C-1
D405	B-2
D406	C-2
D407	B-2
D408	B-2
D409	C-3
D411	C-3
D412	D-3
D413	C-3
D414	D-3
Q401	B-3
Q402	B-3
Q403	B-3
Q404	B-3
ZD401	B-3

• **Waveforms**

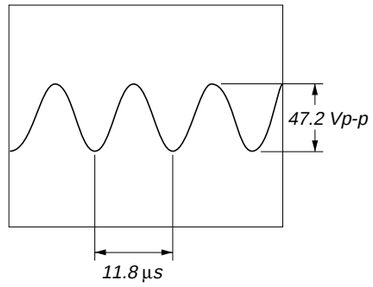
– MAIN Board –

❶ IC102 ㉒ (XOUT)

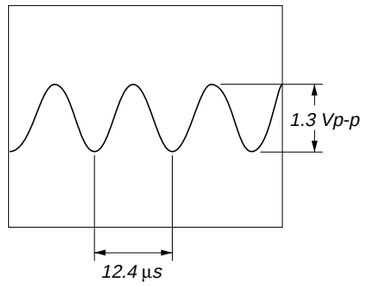


– CASSETTE Board –

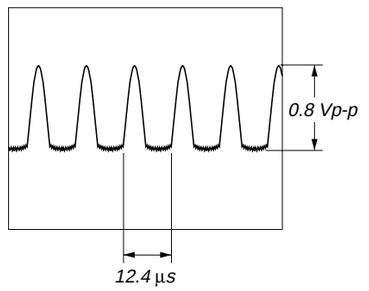
❶ Q705 (Collector)
(RECORD (ISS 2) mode)



❷ Q706 (Base) (RECORD mode)

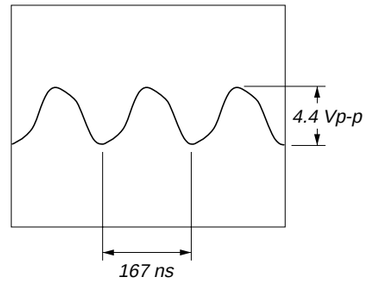


❸ Q706 (Collector, Emitter)
(RECORD mode)



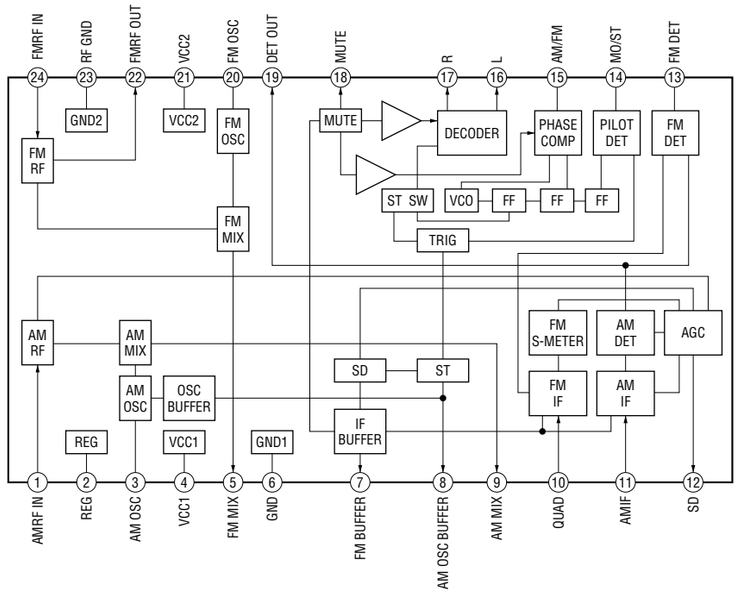
– DISPLAY Board –

❶ IC601 ㊾ (X2)

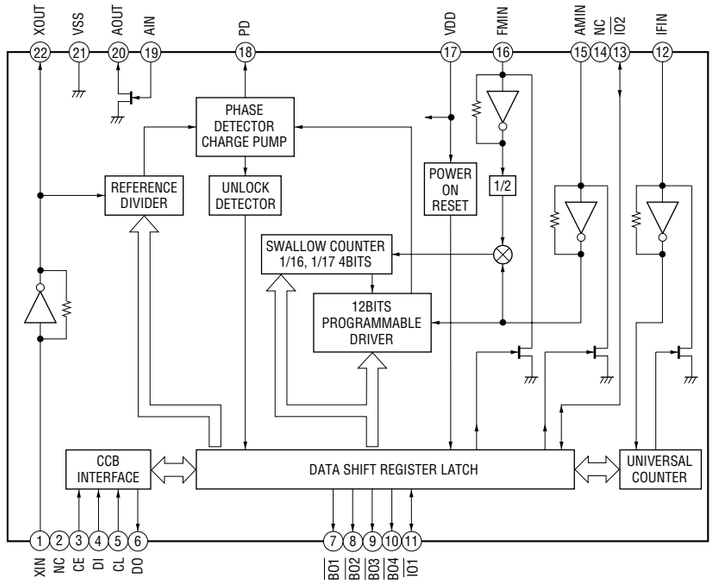


• **IC Block Diagrams**
– MAIN Board –

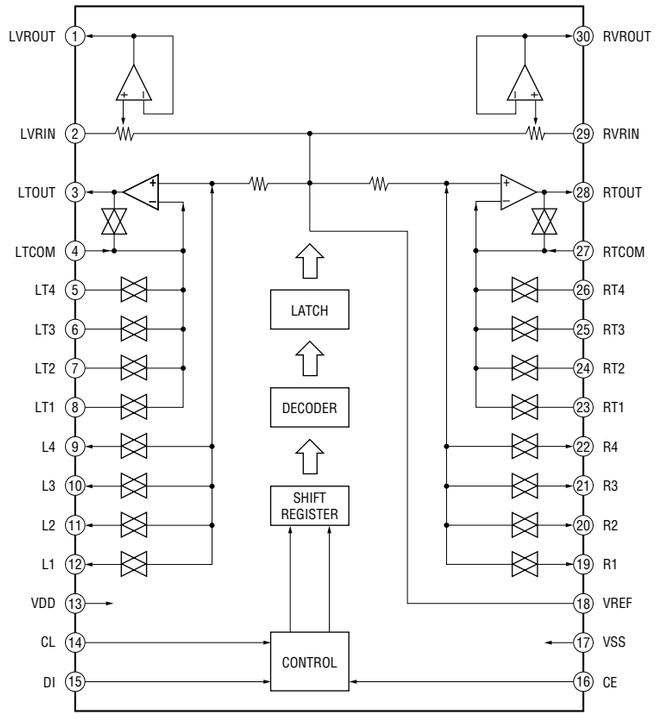
IC101 LA1823



IC102 LC72131

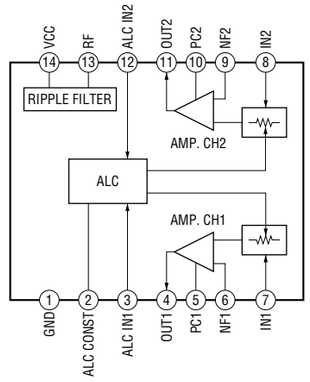


IC203 LC75392



– CASSETTE Board –

IC701 AN7312



6-11. IC PIN FUNCTION DESCRIPTION

• DISPLAY BOARD IC601 μPD753016AGC-F31-3B9 (SYSTEM CONTROLLER, LIQUID CRYSTAL DISPLAY DRIVER)

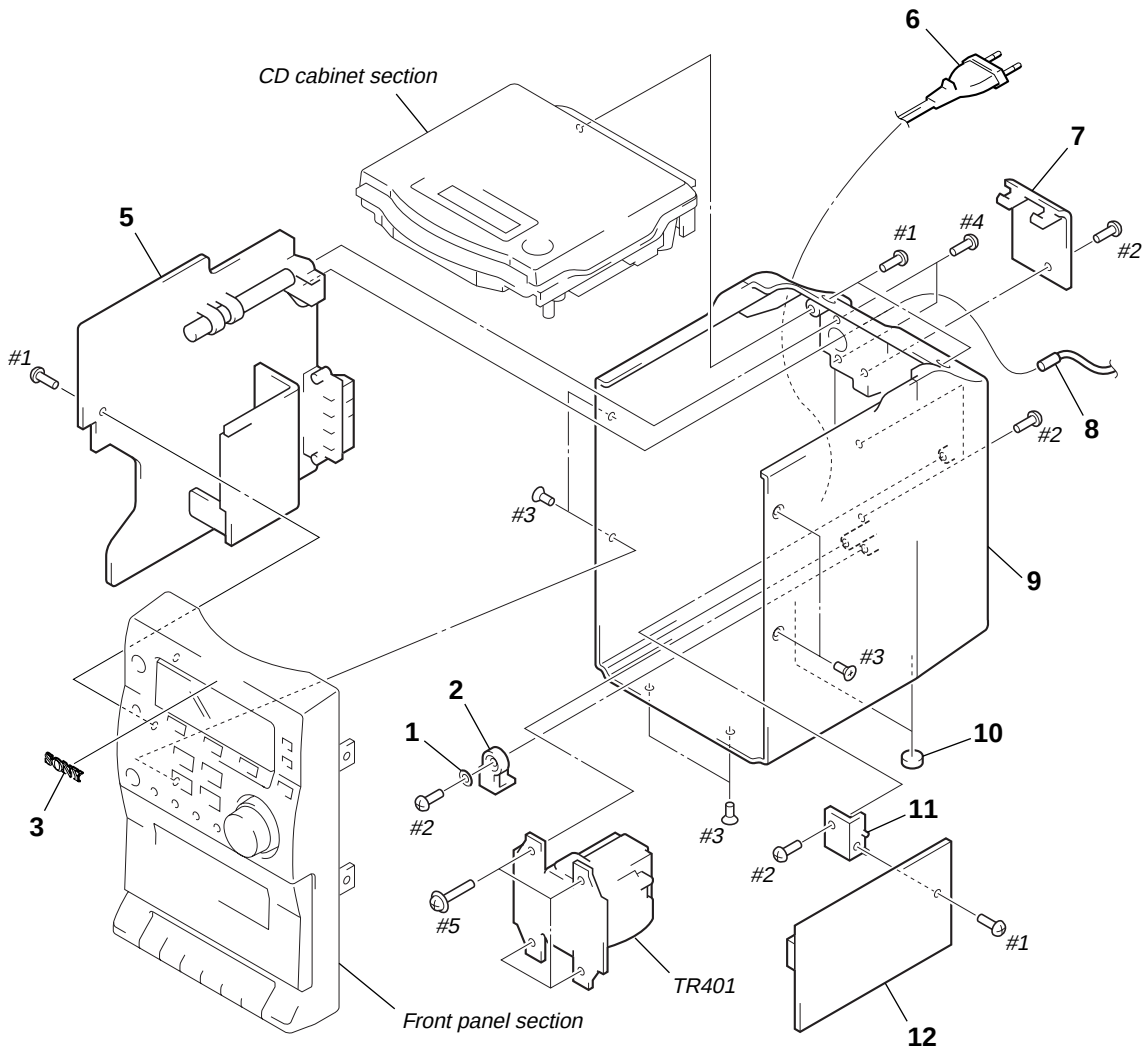
Pin No.	Pin Name	I/O	Description
1 to 20	S12 to S31	O	Segment drive signal output to the liquid crystal display (D621)
21 to 24	COM0 to COM3	O	Common drive signal output to the liquid crystal display (D621)
25	BIAS	O	Bias output for the liquid crystal display drive
26 to 28	VLC0 to VLC2	I	Input terminal for doubler circuit capacitor connection to develop liquid crystal display drive voltage
29	TUNER	O	Power on/off control signal output for the tuner section "L": power on
30	TAPE	O	Audio line muting on/off control signal output "L": muting on
31	CD	O	Power on/off control signal output for the CD section "L": power on
32	TIMER STATUS	O	LED drive signal output of the TIMER indicator (D619) "L": LED on
33	VSS	—	Ground terminal
34	$\overline{\text{CD-RESET}}$	O	Reset signal output to the CD section "L": reset
35	SURROUND	O	Not used (pull up)
36	PLL CL	O	PLL serial data transfer clock signal output to the FM/AM PLL (IC102)
37	PLL DI	O	PLL serial data output to the FM/AM PLL (IC102)
38	TUNER SD	I	FM and AM signal meter voltage detection input from the LA1823 (IC101)
39	CLOCK	O	Serial data transfer clock signal output to the LC75392 (IC203)
40	DATA	O	Serial data output to the LC75392 (IC203)
41	STEREO	I	FM stereo detection signal input from the LA1823 (IC101) "L": stereo
42	CD CLOCK	I	Serial data transfer clock signal input from the CD section
43	RDS CLOCK	I	Serial data transfer clock signal input from the RDS decoder Not used (open)
44	REMOTE	I	Remote control signal input from the remote control receiver (RM601)
45	SYNCRO	I	Recording on detection signal input
46	MUTE	O	Audio line muting on/off control signal output "H": muting on
47	PLLCE	O	PLL chip enable signal output to the FM/AM PLL (IC102) "H" active
48	CE	O	Chip enable signal output to the LC75392 (IC203) "H" active
49	SHRST	O	Not used (open)
50	RDS DATA	I	Serial data input from the RDS decoder Not used (open)
51	PSW	O	System power on/off control signal out "H": power on
52	BASS BOOST	O	Mega bass on/off selection signal output "H": mega bass on
53	DPSW2/SLEND	I	CD lid open/close detection switch (SW600) input terminal "L": CD lid is closed
54	VDD	—	Power supply terminal
55	XT1	I	Power failure detection input terminal "L": power failure, "H": power on
56	XT2	O	Not used (open)
57	IC	—	Internal connection terminal (connected to power supply)
58	X1	I	Main system clock input terminal (6 MHz)
59	X2	O	Main system clock output terminal (6 MHz)
60	PLLDO SELECT	I	PLL serial data input from the FM/AM PLL (IC102)
61	CD DATA	I/O	Two-way data bus with the CD section
62	NC	—	Not used (open)
63	12/24H SELECT	I	Not used (fixed at "H")
64 to 67	KEY R0 to KEY R4	I	Key return signal input from the key matrix "L" input when key pressing
68	$\overline{\text{CPU RESET}}$	I	System reset signal input from the reset signal generator (IC603) "L": reset For several hundreds msec. after the power supply rises, "L" is input, then it changes to "H"
69 to 80	S0 to S11	O	Segment drive signal output to the liquid crystal display (D621)

SECTION 7
EXPLODED VIEWS

NOTE:
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts
  Example:
  KNOB, BALANCE (WHITE) . . . (RED)
  ↑ ↑
  Parts Color Cabinet's Color
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of the electrical parts list.

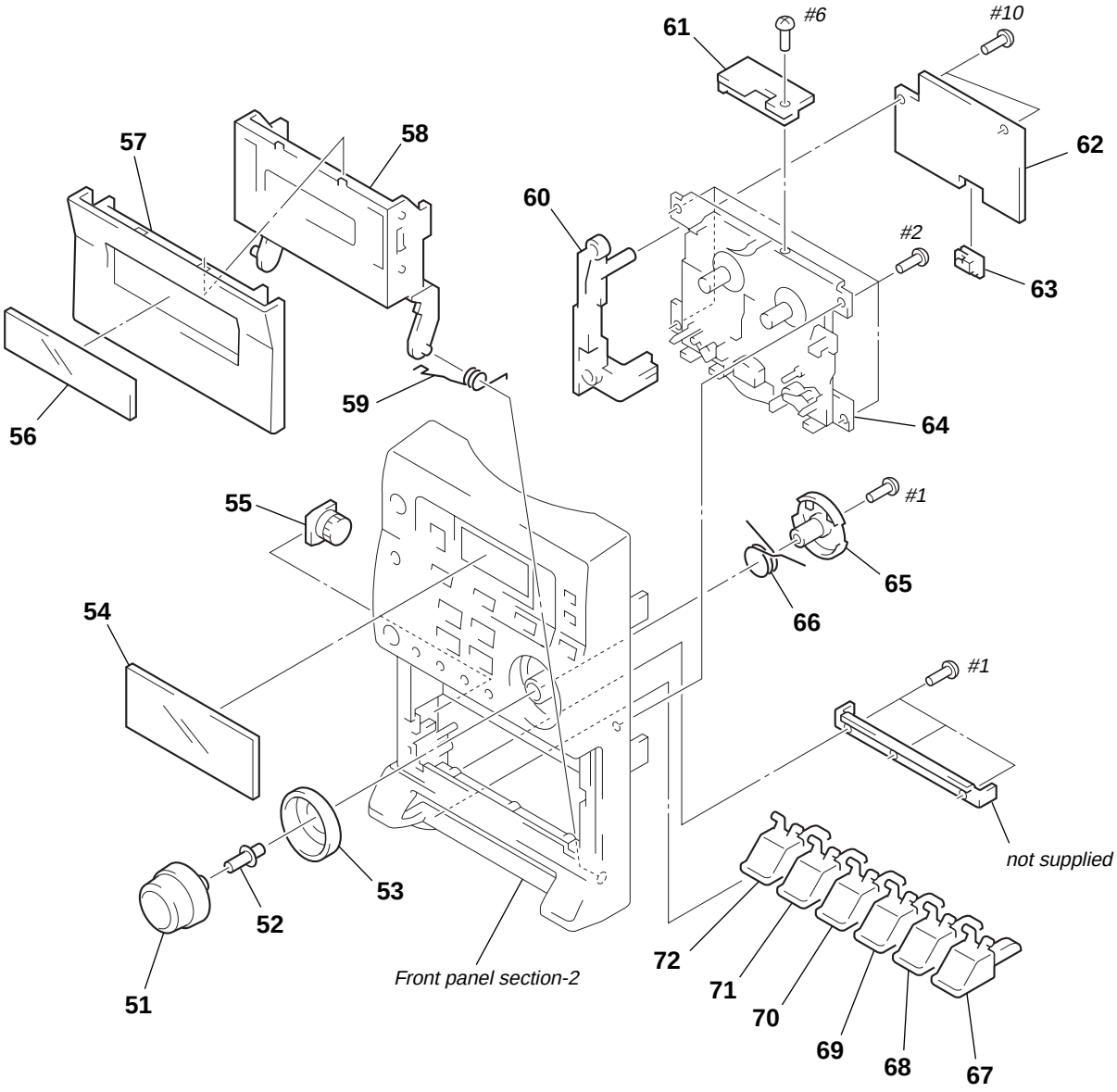
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

7-1. CABINET SECTION



Ref. No.	Part No.	Description	Remark
1	3-451-162-00	WASHER	
2	4-235-952-01	AC CORD HOLDER	
3	4-236-194-01	EMBLEM BADGE	
5	A-4726-786-A	MAIN BOARD, COMPLETE	
⚠6	1-555-750-00	CORD, POWER, EURO PLUG	
7	4-235-974-01	CAB, ANTENNA COVER	
8	1-823-170-11	CORD (WITH CONNECTOR) (FM ANT)	
9	4-235-972-01	REAR CABINET	
10	4-235-995-01	RUBBER FOOT	
11	4-235-944-01	POWER PWB MOUNTING BKT	
12	A-4726-715-A	POWER BOARD, COMPLETE	
⚠TR401	1-437-463-11	TRANSFORMER, POWER	

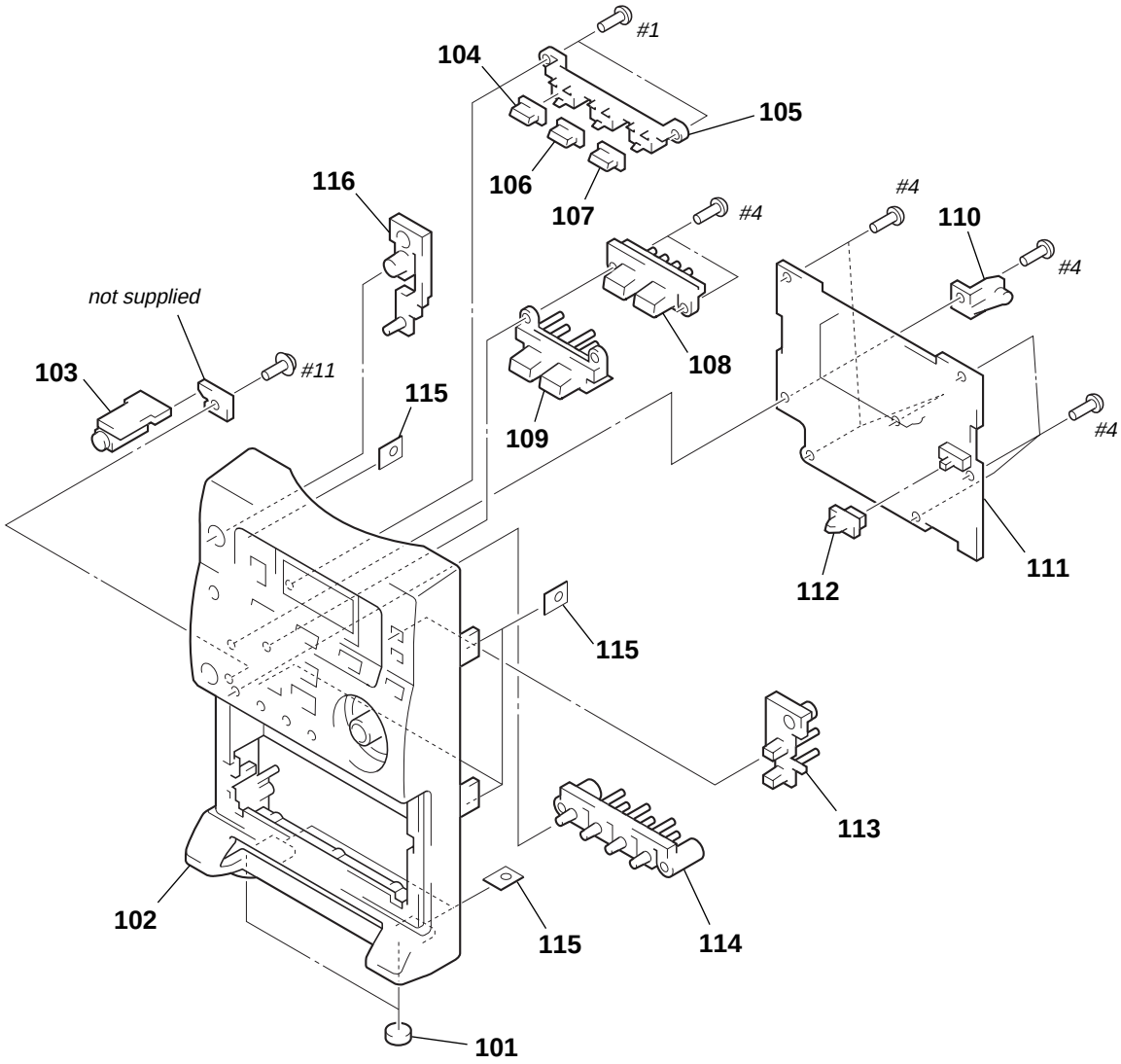
7-2. FRONT PANEL SECTION-1



Ref. No.	Part No.	Description	Remark
51	4-235-953-01	VOL. SWING KNOB	
52	4-235-950-01	SWING SHAFT	
53	4-235-939-01	VOL. DECORATION RING	
54	4-236-068-01	DISPLAY WINDOW	
55	4-224-104-41	DAMPER	
56	4-236-067-01	CASS LID WINDOW	
57	4-236-546-01	CASS LID	
58	4-235-940-01	CASS LID BKT	
59	4-235-981-01	CASS LID SPRING	
60	4-235-941-01	MAIN PWB MOUNTING BKT (A)	
61	4-235-942-01	CASS PWB MOUNTING BKT (A)	

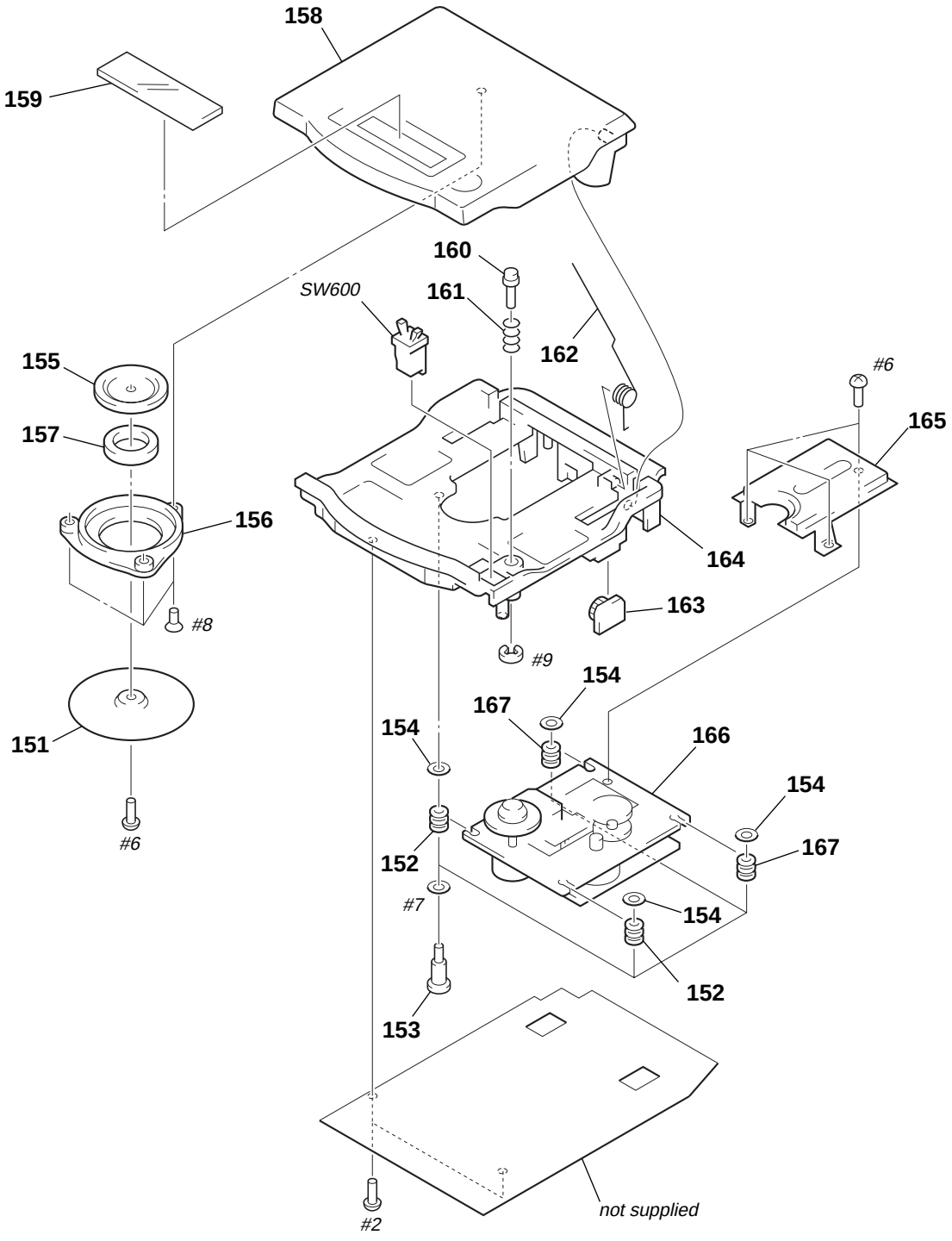
Ref. No.	Part No.	Description	Remark
62	A-4726-711-A	CASSETTE BOARD, COMPLETE	
63	4-235-947-01	CASS PWB MOUNTING BKT (B)	
64	1-796-190-11	DECK, MECH (TAPE)	
65	4-235-951-01	VOL. SWING LEVER	
66	4-235-989-01	VOLUME KNOB SPRING	
67	4-235-954-01	CASS KEY (PAUSE)	
68	4-235-955-01	CASS KEY (STOP/EJECT)	
69	4-235-956-01	CASS KEY (FF)	
70	4-235-957-01	CASS KEY (REW)	
71	4-235-958-01	CASS KEY (PLAY)	
72	4-235-959-01	CASS KEY (REC)	

7-3. FRONT PANEL SECTION-2



Ref. No.	Part No.	Description	Remark
101	4-235-995-01	RUBBER FOOT	
102	4-235-975-01	FRONT PANEL	
103	A-4726-714-A	HEADPHONE BOARD, COMPLETE	
104	4-235-968-01	TAPE KEY CAP	
105	4-235-946-01	FUNCTION KEY BKT	
106	4-235-966-01	CD KEY CAP	
107	4-235-967-01	TUNER KEY CAP	
108	4-235-963-01	PLAY/STOP KNOB	
109	4-235-962-01	SKIP/SEARCH KNOB	
110	4-235-943-01	MAIN PWB MOUNTING BKT (B)	
111	A-4726-785-A	DISPLAY BOARD, COMPLETE	
112	4-235-965-01	SLIDE KNOB	
113	4-235-961-01	BASS/SELECT KNOB	
114	4-235-964-01	PRESET UP/DOWN KNOB	
115	4-235-994-01	PANEL FIXING PLATE	
116	4-235-960-01	POWER KNOB	

7-4. CD CABINET SECTION



Ref. No.	Part No.	Description	Remark
151	4-235-971-01	PLASTIC COVER	
152	4-236-280-01	RUBBER, VIBRATION PROOF (PINK)	
153	4-235-991-01	PULLEY SCREW	
* 154	3-509-138-00	CLAMP, SPRING	
155	4-236-860-01	METAL COVER	
156	4-235-948-01	DISC HOLDER BKT	
157	1-471-144-11	MAGNET	
158	4-236-545-01	CD LID	
159	4-236-066-01	CD LID WINDOW	

Ref. No.	Part No.	Description	Remark
160	4-235-970-01	NSX1 PUSH ROD	
161	4-235-990-01	CD EJECT SPRING	
162	4-235-982-01	CD LID SPRING	
163	4-224-104-41	DAMPER	
164	4-235-938-01	CD TRAY	
165	4-235-949-01	PU COVER	
166	1-796-189-11	MECH, CD	
167	4-236-281-01	RUBBER, VIBRATION PROOF (BROWN)	
SW600	1-692-960-21	SWITCH, PUSH (1 KEY) (OPEN/CLOSE)	

SECTION 8
ELECTRICAL PARTS LIST

CASSETTE

NOTE:
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL: Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F: nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service.
  Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u: µ, for example:
  uA. . : µA. . uPA. . : µPA. .
  uPB. . : µPB. . uPC. . : µPC. .
  uPD. . : µPD. .
- CAPACITORS
  uF: µF
- COILS
  uH: µH

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description			Remark
	A-4726-711-A	CASSETTE BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C701	1-130-474-00	FILM	0.0018uF	5%	50V
C702	1-130-474-00	FILM	0.0018uF	5%	50V
C703	1-130-495-00	MYLAR	0.1uF	5%	50V
C704	1-130-495-00	MYLAR	0.1uF	5%	50V
C705	1-162-286-31	CERAMIC	220PF	10%	50V
C706	1-162-286-31	CERAMIC	220PF	10%	50V
C707	1-104-665-11	ELECT	100uF	20%	10V
C708	1-104-665-11	ELECT	100uF	20%	10V
C709	1-164-159-11	CERAMIC	0.1uF		50V
C710	1-164-159-11	CERAMIC	0.1uF		50V
C711	1-126-964-11	ELECT	10uF	20%	50V
C712	1-126-964-11	ELECT	10uF	20%	50V
C713	1-126-960-11	ELECT	1uF	20%	50V
C714	1-126-960-11	ELECT	1uF	20%	50V
C715	1-126-956-11	ELECT	0.1uF	20%	50V
C716	1-126-956-11	ELECT	0.1uF	20%	50V
C717	1-130-473-00	MYLAR	0.0015uF	5%	50V
C718	1-130-473-00	MYLAR	0.0015uF	5%	50V
C719	1-126-964-11	ELECT	10uF	20%	50V
C720	1-104-664-11	ELECT	47uF	20%	10V
C721	1-126-935-11	ELECT	470uF	20%	16V
C722	1-161-494-00	CERAMIC	0.022uF		25V
C723	1-128-551-11	ELECT	22uF	20%	25V
C724	1-161-494-00	CERAMIC	0.022uF		25V
C725	1-130-476-00	MYLAR	0.0027uF	5%	50V
C726	1-162-288-31	CERAMIC	330PF	10%	50V
C727	1-161-494-00	CERAMIC	0.022uF		25V
C728	1-126-964-11	ELECT	10uF	20%	50V
C729	1-130-487-00	MYLAR	0.022uF	5%	50V
C730	1-130-481-00	MYLAR	0.0068uF	5%	50V
C731	1-162-282-31	CERAMIC	100PF	10%	50V
C732	1-162-282-31	CERAMIC	100PF	10%	50V
		< CONNECTOR >			
* CN701	1-695-645-11	PLUG (CONNECTOR) 4P			
		< DIODE >			
D701	8-719-991-33	DIODE 1N4148TP			
D702	8-719-991-33	DIODE 1SS133T-77			

Ref. No.	Part No.	Description			Remark
		< IC >			
IC701	6-700-579-01	IC AN7312			
		< TRANSISTOR >			
Q701	8-729-194-57	TRANSISTOR	2SC945-P		
Q702	8-729-194-57	TRANSISTOR	2SC945-P		
Q703	8-729-194-57	TRANSISTOR	2SC945-P		
Q704	8-729-194-57	TRANSISTOR	2SC945-P		
Q705	8-729-194-57	TRANSISTOR	2SC945-P		
Q706	8-729-116-82	TRANSISTOR	2SD1616-L		
		< RESISTOR >			
R701	1-249-393-11	CARBON	10	5%	1/4W
R702	1-249-393-11	CARBON	10	5%	1/4W
R703	1-249-434-11	CARBON	27K	5%	1/4W
R704	1-249-434-11	CARBON	27K	5%	1/4W
R705	1-249-433-11	CARBON	22K	5%	1/4W
R706	1-249-433-11	CARBON	22K	5%	1/4W
R707	1-249-418-11	CARBON	1.2K	5%	1/4W
R708	1-249-418-11	CARBON	1.2K	5%	1/4W
R709	1-249-413-11	CARBON	470	5%	1/4W
R710	1-249-413-11	CARBON	470	5%	1/4W
R711	1-249-438-11	CARBON	56K	5%	1/4W
R712	1-249-438-11	CARBON	56K	5%	1/4W
R713	1-249-433-11	CARBON	22K	5%	1/4W
R714	1-249-433-11	CARBON	22K	5%	1/4W
R715	1-249-429-11	CARBON	10K	5%	1/4W
R716	1-249-429-11	CARBON	10K	5%	1/4W
R719	1-249-426-11	CARBON	5.6K	5%	1/4W
R720	1-249-426-11	CARBON	5.6K	5%	1/4W
R721	1-249-429-11	CARBON	10K	5%	1/4W
R722	1-249-429-11	CARBON	10K	5%	1/4W
R723	1-247-893-11	CARBON	390K	5%	1/4W
R724	1-249-441-11	CARBON	100K	5%	1/4W
R725	1-249-411-11	CARBON	330	5%	1/4W
R726	1-249-437-11	CARBON	47K	5%	1/4W
R727	1-249-430-11	CARBON	12K	5%	1/4W
R728	1-249-437-11	CARBON	47K	5%	1/4W
R729	1-249-437-11	CARBON	47K	5%	1/4W
R730	1-249-437-11	CARBON	47K	5%	1/4W
R731	1-247-847-11	CARBON	4.7K	5%	1/4W
R732	1-249-411-11	CARBON	330	5%	1/4W

CASSETTE **DISPLAY**

Ref. No.	Part No.	Description			Remark
R733	1-249-429-11	CARBON	10K	5%	1/4W
R734	1-249-437-11	CARBON	47K	5%	1/4W
R735	1-249-435-11	CARBON	33K	5%	1/4W
R736	1-249-396-11	CARBON	18	5%	1/4W
		< SWITCH >			
SW701	1-786-225-11	SWITCH, PUSH (1 KEY) (REC/PB)			
		< COIL >			
T701	1-424-875-11	COIL (OSC)			
**********					
	A-4726-785-A	DISPLAY BOARD, COMPLETE			
		**********			
	4-235-945-01	LED & REMOTE SENSOR HOLDER			
	4-235-973-01	LCD REFLECTOR			
	4-236-071-01	LCD DIFFUSE SHEET			
	4-236-072-01	LED DIFFUSE SHEET			
	7-685-534-14	SCREW +BTP 2.6X8 TYPE2 N-S			
		< CAPACITOR >			
C602	1-126-514-11	ELECT	22uF	20%	10V
C605	1-126-916-11	ELECT	1000uF	20%	6.3V
C606	1-126-791-11	ELECT	10uF	20%	16V
C613	1-102-516-11	CERAMIC	27PF	5%	50V
C614	1-102-960-00	CERAMIC	24PF	5%	50V
C619	1-164-159-11	CERAMIC	0.1uF		50V
C620	1-164-159-11	CERAMIC	0.1uF		50V
C621	1-126-382-11	ELECT	100uF	20%	10V
C639	1-164-159-11	CERAMIC	0.1uF		50V
C652	1-126-791-11	ELECT	10uF	20%	16V
C654	1-161-494-00	CERAMIC	0.022uF		25V
C664	1-164-159-11	CERAMIC	0.1uF		50V
C665	1-164-159-11	CERAMIC	0.1uF		50V
C666	1-164-159-11	CERAMIC	0.1uF		50V
C667	1-164-159-11	CERAMIC	0.1uF		50V
		< DIODE/LIQUID CRYSTAL DISPLAY >			
D11	8-719-085-51	LED L934SGC/B (LCD BACK LIGHT)			
D12	8-719-085-51	LED L934SGC/B (LCD BACK LIGHT)			
D13	8-719-085-51	LED L934SGC/B (LCD BACK LIGHT)			
D14	8-719-085-51	LED L934SGC/B (LCD BACK LIGHT)			
D15	8-719-085-51	LED L934SGC/B (LCD BACK LIGHT)			
D16	8-719-085-51	LED L934SGC/B (LCD BACK LIGHT)			
D17	8-719-085-51	LED L934SGC/B (LCD BACK LIGHT)			
D18	8-719-085-51	LED L934SGC/B (LCD BACK LIGHT)			
D19	8-719-085-51	LED L934SGC/B (LCD BACK LIGHT)			
D601	8-719-991-33	DIODE 1SS133T-77			
D602	8-719-991-33	DIODE 1SS133T-77			
D604	8-719-991-33	DIODE 1SS133T-77			
D607	8-719-991-33	DIODE 1SS133T-77			
D608	8-719-991-33	DIODE 1SS133T-77			
D609	8-719-991-33	DIODE 1SS133T-77			
D610	8-719-991-33	DIODE 1SS133T-77			
D611	8-719-991-33	DIODE 1SS133T-77			
D612	8-719-991-33	DIODE 1SS133T-77			
D613	8-719-991-33	DIODE 1SS133T-77			
D614	8-719-991-33	DIODE 1SS133T-77			

Ref. No.	Part No.	Description			Remark
D615	8-719-991-33	DIODE 1SS133T-77			
D616	8-719-991-33	DIODE 1SS133T-77			
D617	8-719-991-33	DIODE 1SS133T-77			
D619	8-719-062-11	LED SEL2215S-CD (TIMER)			
D621	1-804-496-11	DISPLAY PANEL, LIQUID CRYSTAL			
D647	8-719-991-33	DIODE 1SS133T-77			
		< IC >			
IC601	6-800-412-01	IC uPD753016AGC-F31-3B9			
IC602	8-759-009-22	IC MC14094BF			
IC603	8-759-971-11	IC PST529D			
		< COIL >			
L601	1-410-521-11	INDUCTOR	100uH		
L602	1-410-509-11	INDUCTOR	10uH		
		< TRANSISTOR >			
Q601	8-729-194-57	TRANSISTOR	2SC945-P		
Q602	8-729-194-57	TRANSISTOR	2SC945-P		
		< RESISTOR >			
R419	1-249-408-11	CARBON	180	5%	1/4W
R420	1-249-408-11	CARBON	180	5%	1/4W
R421	1-249-408-11	CARBON	180	5%	1/4W
R600	1-249-437-11	CARBON	47K	5%	1/4W
R601	1-249-429-11	CARBON	10K	5%	1/4W
R602	1-249-437-11	CARBON	47K	5%	1/4W
R603	1-249-420-11	CARBON	1.8K	5%	1/4W
R604	1-249-420-11	CARBON	1.8K	5%	1/4W
R605	1-249-429-11	CARBON	10K	5%	1/4W
R606	1-247-807-31	CARBON	100	5%	1/4W
R607	1-249-437-11	CARBON	47K	5%	1/4W
R608	1-249-437-11	CARBON	47K	5%	1/4W
R609	1-249-437-11	CARBON	47K	5%	1/4W
R610	1-249-429-11	CARBON	10K	5%	1/4W
R611	1-249-429-11	CARBON	10K	5%	1/4W
R612	1-249-429-11	CARBON	10K	5%	1/4W
R613	1-249-429-11	CARBON	10K	5%	1/4W
R614	1-247-843-11	CARBON	3.3K	5%	1/4W
R615	1-249-429-11	CARBON	10K	5%	1/4W
R616	1-247-871-11	CARBON	47K	5%	1/4W
R618	1-249-433-11	CARBON	22K	5%	1/4W
R620	1-249-433-11	CARBON	22K	5%	1/4W
R621	1-249-429-11	CARBON	10K	5%	1/4W
R623	1-249-417-11	CARBON	1K	5%	1/4W
R625	1-249-417-11	CARBON	1K	5%	1/4W
R627	1-249-437-11	CARBON	47K	5%	1/4W
R628	1-249-417-11	CARBON	1K	5%	1/4W
R629	1-249-417-11	CARBON	1K	5%	1/4W
R631	1-249-437-11	CARBON	47K	5%	1/4W
R632	1-249-437-11	CARBON	47K	5%	1/4W
R633	1-249-437-11	CARBON	47K	5%	1/4W
R634	1-249-437-11	CARBON	47K	5%	1/4W
R636	1-249-437-11	CARBON	47K	5%	1/4W
R638	1-249-437-11	CARBON	47K	5%	1/4W
R639	1-249-417-11	CARBON	1K	5%	1/4W

DISPLAY | HEADPHONE | MAIN

Ref. No.	Part No.	Description			Remark
R640	1-249-417-11	CARBON	1K	5%	1/4W
R641	1-249-437-11	CARBON	47K	5%	1/4W
R642	1-249-433-11	CARBON	22K	5%	1/4W
R643	1-249-433-11	CARBON	22K	5%	1/4W
R644	1-249-433-11	CARBON	22K	5%	1/4W
R645	1-249-437-11	CARBON	47K	5%	1/4W
R646	1-249-437-11	CARBON	47K	5%	1/4W
R647	1-249-437-11	CARBON	47K	5%	1/4W
R657	1-249-409-11	CARBON	220	5%	1/4W
R658	1-249-437-11	CARBON	47K	5%	1/4W
R663	1-249-429-11	CARBON	10K	5%	1/4W
R664	1-249-429-11	CARBON	10K	5%	1/4W
R665	1-249-429-11	CARBON	10K	5%	1/4W
R667	1-247-871-11	CARBON	47K	5%	1/4W
		< IC >			
REM601	8-749-016-29	IC RPM6938 (REMOTE CONTROL RECEIVER)			
		< SWITCH >			
SW601	1-570-472-11	SWITCH, KEY BOARD (I/⏻)			
SW602	1-570-472-11	SWITCH, KEY BOARD (REPEAT)			
SW603	1-570-472-11	SWITCH, KEY BOARD (SHUFFLE)			
SW604	1-570-472-11	SWITCH, KEY BOARD (TUNER MEM, ENTER PGM)			
SW605	1-570-472-11	SWITCH, KEY BOARD (PRESET –)			
SW606	1-570-472-11	SWITCH, KEY BOARD (PRESET +)			
SW607	1-570-472-11	SWITCH, KEY BOARD (TUNING +, ▶▶ ▶▶I)			
SW608	1-570-472-11	SWITCH, KEY BOARD (■)			
SW609	1-570-472-11	SWITCH, KEY BOARD (TUNING –, I◀◀ ◀◀)			
SW610	1-570-472-11	SWITCH, KEY BOARD (▶II)			
SW611	1-570-472-11	SWITCH, KEY BOARD (REMAIN CD)			
SW612	1-570-472-11	SWITCH, KEY BOARD (TAPE)			
SW613	1-570-472-11	SWITCH, KEY BOARD (TUNER)			
SW614	1-570-472-11	SWITCH, KEY BOARD (MUSIC MENU)			
SW615	1-570-472-11	SWITCH, KEY BOARD (MEGA BASS)			
SW621	1-554-088-00	SWITCH, KEY BOARD (VOLUME –)			
SW622	1-554-088-00	SWITCH, KEY BOARD (VOLUME +)			
SW631	1-786-224-11	SW, SLIDE (MONO STEREO, ISS)			
		< VIBRATOR >			
X602	1-795-398-11	VIBRATOR, CRYSTAL (6MHz)			
	A-4726-714-A	HEADPHONE BOARD, COMPLETE			
		< JACK >			
JK401	1-815-813-11	JACK (LARGE TYPE) (PHONES)			
		< RESISTOR >			
R412	1-249-408-11	CARBON	180	5%	1/4W
R413	1-249-408-11	CARBON	180	5%	1/4W

Ref. No.	Part No.	Description			Remark
	A-4726-786-A	MAIN BOARD, COMPLETE			
	1-424-881-11	AM BAR ANT			
	4-235-969-01	BAR HOLDER			
	7-682-549-09	SCREW +B 3X10			
		< TERMINAL >			
ANT101	1-694-848-11	TERMINAL BOARD (ANT FM) (FM ANT)			
		< CAPACITOR >			
C102	1-162-282-31	CERAMIC	100PF	10%	50V
C104	1-162-294-31	CERAMIC	0.001uF	10%	50V
C105	1-162-294-31	CERAMIC	0.001uF	10%	50V
C107	1-130-471-00	MYLAR	0.001uF	5%	50V
C108	1-126-963-11	ELECT	4.7uF	20%	50V
C109	1-102-936-00	CERAMIC	3.0PF	0.25PF	50V
C110	1-162-205-31	CERAMIC	18PF	5%	50V
C111	1-162-294-31	CERAMIC	0.001uF	10%	50V
C112	1-162-294-31	CERAMIC	0.001uF	10%	50V
C113	1-130-485-00	MYLAR	0.015uF	5%	50V
C114	1-130-485-00	MYLAR	0.015uF	5%	50V
C116	1-161-494-00	CERAMIC	0.022uF		25V
C117	1-130-477-00	MYLAR	0.0033uF	5%	50V
C118	1-130-477-00	MYLAR	0.0033uF	5%	50V
C119	1-126-960-11	ELECT	1uF	20%	50V
C120	1-126-960-11	ELECT	1uF	20%	50V
C121	1-162-290-31	CERAMIC	470PF	10%	50V
C122	1-126-957-11	ELECT	0.22uF	20%	50V
C123	1-126-959-11	ELECT	0.47uF	20%	50V
C124	1-126-960-11	ELECT	1uF	20%	50V
C126	1-162-306-11	CERAMIC	0.01uF	30%	16V
C127	1-127-884-11	CERAMIC	0.047uF	10%	50V
C128	1-126-935-11	ELECT	470uF	20%	16V
C129	1-126-963-11	ELECT	4.7uF	20%	50V
C130	1-126-964-11	ELECT	10uF	20%	50V
C131	1-127-884-11	CERAMIC	0.047uF	10%	50V
C135	1-110-342-11	MYLAR	390PF	5%	50V
C136	1-102-947-00	CERAMIC	10PF	0.5PF	50V
C140	1-127-884-11	CERAMIC	0.047uF	10%	50V
C144	1-161-494-00	CERAMIC	0.022uF		25V
C145	1-162-282-31	CERAMIC	100PF	10%	50V
C146	1-162-294-31	CERAMIC	0.001uF	10%	50V
C147	1-162-306-11	CERAMIC	0.01uF	30%	16V
C148	1-126-963-11	ELECT	4.7uF	20%	50V
C150	1-126-935-11	ELECT	470uF	20%	16V
C151	1-127-888-11	CERAMIC	0.1uF	10%	50V
C152	1-127-888-11	CERAMIC	0.1uF	10%	50V
C153	1-101-974-11	CERAMIC	20PF	5%	50V
C154	1-102-518-11	CERAMIC	33PF	5%	50V
C155	1-102-518-11	CERAMIC	33PF	5%	50V
C156	1-104-664-11	ELECT	47uF	20%	10V
C157	1-127-888-11	CERAMIC	0.1uF	10%	50V
C160	1-162-191-31	CERAMIC	2.2PF	10%	50V
C161	1-127-888-11	CERAMIC	0.1uF	10%	50V
C162	1-161-494-00	CERAMIC	0.022uF		25V
C163	1-126-933-11	ELECT	100uF	20%	16V
C166	1-104-664-11	ELECT	47uF	20%	10V

MAIN

Ref. No.	Part No.	Description			Remark
C167	1-162-290-31	CERAMIC	470PF	10%	50V
C181	1-102-962-00	CERAMIC	30PF	5%	50V
C190	1-102-962-00	CERAMIC	30PF	5%	50V
C201	1-127-872-11	CERAMIC	4700PF	10%	50V
C202	1-126-935-11	ELECT	470uF	20%	16V
C203	1-126-960-11	ELECT	1uF	20%	50V
C204	1-126-960-11	ELECT	1uF	20%	50V
C205	1-127-888-11	CERAMIC	0.1uF	10%	50V
C206	1-127-888-11	CERAMIC	0.1uF	10%	50V
C207	1-127-888-11	CERAMIC	0.1uF	10%	50V
C208	1-127-888-11	CERAMIC	0.1uF	10%	50V
C209	1-127-888-11	CERAMIC	0.1uF	10%	50V
C210	1-127-888-11	CERAMIC	0.1uF	10%	50V
C211	1-126-963-11	ELECT	4.7uF	20%	50V
C212	1-126-963-11	ELECT	4.7uF	20%	50V
C213	1-126-961-11	ELECT	2.2uF	20%	50V
C214	1-126-961-11	ELECT	2.2uF	20%	50V
C215	1-130-478-00	MYLAR	0.0039uF	5%	50V
C216	1-130-478-00	MYLAR	0.0039uF	5%	50V
C219	1-130-488-00	MYLAR	0.027uF	5%	50V
C220	1-130-488-00	MYLAR	0.027uF	5%	50V
C221	1-136-293-11	MYLAR	0.0082uF	5%	50V
C222	1-136-293-11	MYLAR	0.0082uF	5%	50V
C225	1-130-477-00	MYLAR	0.0033uF	5%	50V
C226	1-130-477-00	MYLAR	0.0033uF	5%	50V
C227	1-162-285-31	CERAMIC	180PF	10%	50V
C228	1-162-285-31	CERAMIC	180PF	10%	50V
C229	1-130-491-00	MYLAR	0.047uF	5%	50V
C230	1-130-491-00	MYLAR	0.047uF	5%	50V
C231	1-162-199-31	CERAMIC	10PF	5%	50V
C232	1-162-199-31	CERAMIC	10PF	5%	50V
C238	1-126-935-11	ELECT	470uF	20%	16V
C239	1-126-935-11	ELECT	470uF	20%	16V
C240	1-130-475-00	FILM	0.0022uF	5%	50V
C241	1-126-963-11	ELECT	4.7uF	20%	50V
C242	1-126-963-11	ELECT	4.7uF	20%	50V
C245	1-162-294-31	CERAMIC	0.001uF	10%	50V
C246	1-162-294-31	CERAMIC	0.001uF	10%	50V
C247	1-126-959-11	ELECT	0.47uF	20%	50V
C248	1-126-959-11	ELECT	0.47uF	20%	50V
C249	1-130-475-00	FILM	0.0022uF	5%	50V
C250	1-126-964-11	ELECT	10uF	20%	50V
C251	1-130-491-00	FILM	0.047uF	5%	50V
C301	1-130-471-00	MYLAR	0.001uF	5%	50V
C302	1-130-471-00	MYLAR	0.001uF	5%	50V
C303	1-104-660-11	ELECT	47uF	20%	16V
C304	1-104-660-11	ELECT	47uF	20%	16V
C305	1-130-497-00	MYLAR	0.15uF	5%	50V
C306	1-130-497-00	MYLAR	0.15uF	5%	50V
C307	1-104-665-11	ELECT	100uF	20%	25V
C308	1-104-665-11	ELECT	100uF	20%	25V
C309	1-126-767-11	ELECT	1000uF	20%	16V
C310	1-126-767-11	ELECT	1000uF	20%	16V
C311	1-127-888-11	CERAMIC	0.1uF	10%	50V
C313	1-126-941-11	ELECT	470uF	20%	25V
C314	1-104-666-11	ELECT	220uF	20%	25V
C315	1-126-964-11	ELECT	10uF	20%	50V
C317	1-161-494-00	CERAMIC	0.022uF		25V
C319	1-126-961-11	ELECT	2.2uF	20%	50V
C320	1-126-961-11	ELECT	2.2uF	20%	50V
C321	1-126-961-11	ELECT	2.2uF	20%	50V
C322	1-126-933-11	ELECT	100uF	20%	16V
C323	1-161-494-00	CERAMIC	0.022uF		25V
C325	1-126-964-11	ELECT	10uF	20%	50V
C326	1-126-933-11	ELECT	100uF	20%	16V
C327	1-161-494-00	CERAMIC	0.022uF		25V
C328	1-104-664-11	ELECT	47uF	20%	10V
C329	1-127-888-11	CERAMIC	0.1uF	10%	50V
C330	1-126-933-11	ELECT	100uF	20%	16V
C331	1-104-665-11	ELECT	100uF	20%	25V
C409	1-126-944-11	ELECT	3300uF	20%	25V

< CONNECTOR >

Ref. No.	Part No.	Description	Remark
* CN101	1-564-710-11	PIN, CONNECTOR (SMALL TYPE) 8P	
* CN201	1-564-711-11	PIN, CONNECTOR (SMALL TYPE) 9P	
* CN202	1-695-645-11	PLUG (CONNECTOR) 4P	
* CN203	1-564-711-11	PIN, CONNECTOR (SMALL TYPE) 9P	
* CN204	1-564-711-11	PIN, CONNECTOR (SMALL TYPE) 9P	
* CN301	1-565-731-11	PLUG, CONNECTOR (2.5MM) 5P	
* CN302	1-564-711-11	PIN, CONNECTOR (SMALL TYPE) 9P	

< DIODE >

Ref. No.	Part No.	Description	Remark
D101	8-719-991-33	DIODE 1SS133T-77	
D102	8-719-991-33	DIODE 1SS133T-77	
D103	8-719-070-77	DIODE SVC201SPA-M1-AC	
D104	8-719-070-77	DIODE SVC201SPA-M1-AC	
D105	8-719-085-35	DIODE SVC348T	
D302	8-719-991-33	DIODE 1SS133T-77	
D303	8-719-991-33	DIODE 1SS133T-77	
D306	8-719-991-33	DIODE 1SS133T-77	
D307	8-719-991-33	DIODE 1SS133T-77	
D308	8-719-991-33	DIODE 1SS133T-77	
D310	8-719-991-33	DIODE 1SS133T-77	
D311	8-719-991-33	DIODE 1SS133T-77	
D312	8-719-991-33	DIODE 1SS133T-77	
D314	8-719-991-33	DIODE 1SS133T-77	
D316	8-719-991-33	DIODE 1SS133T-77	
D317	8-719-991-33	DIODE 1SS133T-77	

< FILTER >

Ref. No.	Part No.	Description	Remark
F101	1-760-393-11	FILTER, CERAMIC (10.7MHz)	
F102	1-795-397-11	FILTER, CERAMIC (450kHz)	
F103	1-234-704-11	FILTER, BAND PASS (FM)	

< IC >

Ref. No.	Part No.	Description	Remark
IC101	6-700-580-01	IC LA1823	
IC102	8-759-584-70	IC LC72131	
IC203	8-759-473-59	IC LC75392	
IC301	8-759-246-03	IC TA8229K	

< COIL >

Ref. No.	Part No.	Description	Remark
L101	1-414-142-11	INDUCTOR 1uH	
L103	1-424-880-11	COIL (FM)	
L104	1-424-879-11	COIL (FM)	
L106	1-408-801-21	INDUCTOR 0.22uH	

MAIN

Ref. No.	Part No.	Description			Remark
L110	1-424-878-11	COIL (ANT)			
L143	1-414-142-11	INDUCTOR	1uH		
L301	1-410-525-11	INDUCTOR	220uH		
		< TRANSISTOR >			
Q101	8-729-231-82	TRANSISTOR	2SC1923-O		
Q102	8-729-194-57	TRANSISTOR	2SC945-P		
Q103	8-729-194-57	TRANSISTOR	2SC945-P		
Q104	8-729-194-57	TRANSISTOR	2SC945-P		
Q116	8-729-119-76	TRANSISTOR	2SA1175-HFE		
Q201	8-729-194-57	TRANSISTOR	2SC945-P		
Q202	8-729-194-57	TRANSISTOR	2SC945-P		
Q205	8-729-194-57	TRANSISTOR	2SC945-P		
Q206	8-729-194-57	TRANSISTOR	2SC945-P		
Q209	8-729-194-57	TRANSISTOR	2SC945-P		
Q210	8-729-194-57	TRANSISTOR	2SC945-P		
Q301	8-729-116-82	TRANSISTOR	2SD1616-L		
Q302	8-729-116-82	TRANSISTOR	2SD1616-L		
Q305	8-729-804-25	TRANSISTOR	2SB985-T		
Q306	8-729-194-57	TRANSISTOR	2SC945-P		
Q308	8-729-037-08	TRANSISTOR	KTD2058Y		
Q309	8-729-119-76	TRANSISTOR	2SA1175-HFE		
Q310	8-729-194-57	TRANSISTOR	2SC945-P		
Q311	8-729-194-57	TRANSISTOR	2SC945-P		
Q312	8-729-116-82	TRANSISTOR	2SD1616-L		
Q313	8-729-438-33	TRANSISTOR	2SC1383-R		
Q314	8-729-194-57	TRANSISTOR	2SC945-P		
		< RESISTOR >			
R101	1-249-393-11	CARBON	10	5%	1/4W
R102	1-249-435-11	CARBON	33K	5%	1/4W
R103	1-249-435-11	CARBON	33K	5%	1/4W
R104	1-249-418-11	CARBON	1.2K	5%	1/4W
R105	1-247-883-00	CARBON	150K	5%	1/4W
R107	1-249-421-11	CARBON	2.2K	5%	1/4W
R108	1-249-424-11	CARBON	3.9K	5%	1/4W
R109	1-249-424-11	CARBON	3.9K	5%	1/4W
R112	1-247-843-11	CARBON	3.3K	5%	1/4W
R114	1-249-429-11	CARBON	10K	5%	1/4W
R115	1-249-437-11	CARBON	47K	5%	1/4W
R116	1-249-437-11	CARBON	47K	5%	1/4W
R117	1-249-441-11	CARBON	100K	5%	1/4W
R118	1-247-843-11	CARBON	3.3K	5%	1/4W
R119	1-249-441-11	CARBON	100K	5%	1/4W
R120	1-249-429-11	CARBON	10K	5%	1/4W
R121	1-249-435-11	CARBON	33K	5%	1/4W
R123	1-249-441-11	CARBON	100K	5%	1/4W
R124	1-249-429-11	CARBON	10K	5%	1/4W
R126	1-249-402-11	CARBON	56	5%	1/4W
R131	1-249-441-11	CARBON	100K	5%	1/4W
R134	1-249-437-11	CARBON	47K	5%	1/4W
R135	1-249-425-11	CARBON	4.7K	5%	1/4W
R136	1-249-427-11	CARBON	6.8K	5%	1/4W
R139	1-249-410-11	CARBON	270	5%	1/4W
R144	1-249-437-11	CARBON	47K	5%	1/4W
R145	1-249-425-11	CARBON	4.7K	5%	1/4W
R146	1-249-426-11	CARBON	5.6K	5%	1/4W

Ref. No.	Part No.	Description			Remark
R147	1-249-421-11	CARBON	2.2K	5%	1/4W
R148	1-249-426-11	CARBON	5.6K	5%	1/4W
R150	1-249-417-11	CARBON	1K	5%	1/4W
R151	1-249-410-11	CARBON	270	5%	1/4W
R152	1-249-437-11	CARBON	47K	5%	1/4W
R155	1-249-441-11	CARBON	100K	5%	1/4W
R158	1-249-429-11	CARBON	10K	5%	1/4W
R166	1-249-441-11	CARBON	100K	5%	1/4W
R167	1-249-429-11	CARBON	10K	5%	1/4W
R168	1-249-427-11	CARBON	6.8K	5%	1/4W
R201	1-249-409-11	CARBON	220	5%	1/4W
R202	1-249-429-11	CARBON	10K	5%	1/4W
R203	1-249-441-11	CARBON	100K	5%	1/4W
R204	1-249-441-11	CARBON	100K	5%	1/4W
R205	1-249-417-11	CARBON	1K	5%	1/4W
R206	1-249-417-11	CARBON	1K	5%	1/4W
R208	1-249-417-11	CARBON	1K	5%	1/4W
R209	1-249-435-11	CARBON	33K	5%	1/4W
R210	1-249-424-11	CARBON	3.9K	5%	1/4W
R211	1-249-424-11	CARBON	3.9K	5%	1/4W
R212	1-249-435-11	CARBON	33K	5%	1/4W
R213	1-249-434-11	CARBON	27K	5%	1/4W
R214	1-249-434-11	CARBON	27K	5%	1/4W
R215	1-249-426-11	CARBON	5.6K	5%	1/4W
R216	1-249-426-11	CARBON	5.6K	5%	1/4W
R219	1-249-428-11	CARBON	8.2K	5%	1/4W
R220	1-249-428-11	CARBON	8.2K	5%	1/4W
R223	1-249-429-11	CARBON	10K	5%	1/4W
R224	1-249-429-11	CARBON	10K	5%	1/4W
R225	1-249-434-11	CARBON	27K	5%	1/4W
R226	1-249-434-11	CARBON	27K	5%	1/4W
R227	1-249-434-11	CARBON	27K	5%	1/4W
R228	1-249-434-11	CARBON	27K	5%	1/4W
R229	1-249-433-11	CARBON	22K	5%	1/4W
R230	1-249-433-11	CARBON	22K	5%	1/4W
R231	1-249-440-11	CARBON	82K	5%	1/4W
R232	1-249-440-11	CARBON	82K	5%	1/4W
R233	1-249-437-11	CARBON	47K	5%	1/4W
R234	1-249-427-11	CARBON	6.8K	5%	1/4W
R239	1-249-428-11	CARBON	8.2K	5%	1/4W
R240	1-249-428-11	CARBON	8.2K	5%	1/4W
R241	1-249-393-11	CARBON	10	5%	1/4W
R242	1-247-843-11	CARBON	3.3K	5%	1/4W
R243	1-247-843-11	CARBON	3.3K	5%	1/4W
R245	1-249-427-11	CARBON	6.8K	5%	1/4W
R246	1-249-437-11	CARBON	47K	5%	1/4W
R247	1-249-421-11	CARBON	2.2K	5%	1/4W
R248	1-249-421-11	CARBON	2.2K	5%	1/4W
R249	1-247-843-11	CARBON	3.3K	5%	1/4W
R250	1-247-843-11	CARBON	3.3K	5%	1/4W
R251	1-249-437-11	CARBON	47K	5%	1/4W
R252	1-249-437-11	CARBON	47K	5%	1/4W
R253	1-249-441-11	CARBON	100K	5%	1/4W
R254	1-249-429-11	CARBON	10K	5%	1/4W
R255	1-249-429-11	CARBON	10K	5%	1/4W
R256	1-249-429-11	CARBON	10K	5%	1/4W
R257	1-249-417-11	CARBON	1K	5%	1/4W

MAIN **POWER**

Ref. No.	Part No.	Description			Remark
R258	1-247-855-11	CARBON	10K	5%	1/4W
R262	1-249-437-11	CARBON	47K	5%	1/4W
R263	1-249-437-11	CARBON	47K	5%	1/4W
R264	1-249-422-11	CARBON	2.7K	5%	1/4W
R265	1-249-422-11	CARBON	2.7K	5%	1/4W
R266	1-249-430-11	CARBON	12K	5%	1/4W
R267	1-249-430-11	CARBON	12K	5%	1/4W
R268	1-249-429-11	CARBON	10K	5%	1/4W
R269	1-249-417-11	CARBON	1K	5%	1/4W
R301	1-249-437-11	CARBON	47K	5%	1/4W
R302	1-249-437-11	CARBON	47K	5%	1/4W
R303	1-249-425-11	CARBON	4.7K	5%	1/4W
R304	1-249-425-11	CARBON	4.7K	5%	1/4W
R308	1-249-410-11	CARBON	270	5%	1/4W
R309	1-249-410-11	CARBON	270	5%	1/4W
R310	1-249-385-11	CARBON	2.2	5%	1/6W
R311	1-249-385-11	CARBON	2.2	5%	1/6W
R312	1-249-393-11	CARBON	10	5%	1/4W
R313	1-247-791-11	CARBON	22	5%	1/4W
R315	1-249-437-11	CARBON	47K	5%	1/4W
R316	1-249-417-11	CARBON	1K	5%	1/4W
R317	1-247-883-00	CARBON	150K	5%	1/4W
R318	1-249-399-11	CARBON	33	5%	1/4W
R320	1-249-437-11	CARBON	47K	5%	1/4W
R321	1-249-414-11	CARBON	560	5%	1/4W
R322	1-249-441-11	CARBON	100K	5%	1/4W
R323	1-249-425-11	CARBON	4.7K	5%	1/4W
R324	1-249-441-11	CARBON	100K	5%	1/4W
R325	1-249-441-11	CARBON	100K	5%	1/4W
R327	1-249-416-11	CARBON	820	5%	1/4W
R328	1-249-429-11	CARBON	10K	5%	1/4W
R329	1-249-409-11	CARBON	220	5%	1/4W
R330	1-249-409-11	CARBON	220	5%	1/4W
R331	1-249-429-11	CARBON	10K	5%	1/4W
R333	1-260-064-11	CARBON	1	5%	1/2W
R334	1-249-437-11	CARBON	47K	5%	1/4W
R335	1-249-429-11	CARBON	10K	5%	1/4W
R336	1-249-429-11	CARBON	10K	5%	1/4W
		< TERMINAL >			
SPK301	1-537-238-11	TERMINAL BOARD (SPEAKER)			
		< COIL >			
T102	1-424-877-11	COIL (AM OSC)			
T103	1-424-876-11	COIL (AM)			
		< TRIMMER >			
TC101	1-141-304-21	CAP, TRIMMER 10PF			
TC102	1-141-227-00	CAP, TRIMMER 20PF			
		< DISCRIMINATOR/VIBRATOR >			
X101	1-795-396-11	DISCRIMINATOR, CERAMIC (10.7MHz)			
X102	1-577-126-11	VIBRATOR, CRYSTAL (7.2MHz)			
		< DIODE >			
ZD103	8-719-921-42	DIODE MTZJ-5.1A			
ZD302	8-719-110-17	DIODE RD10ESB2			

Ref. No.	Part No.	Description			Remark
ZD304	8-719-110-17	DIODE RD10ESB2			
ZD305	8-719-109-93	DIODE RD6.2ESB2			
**********					
	A-4726-715-A	POWER BOARD, COMPLETE			
		**********			
	1-533-217-31	HOLDER, FUSE			
		< CAPACITOR >			
C402	1-101-005-00	CERAMIC	22000PF		50V
C404	1-101-005-00	CERAMIC	22000PF		50V
C406	1-101-005-00	CERAMIC	22000PF		50V
C408	1-101-005-00	CERAMIC	22000PF		50V
C410	1-126-943-11	ELECT	2200uF	20%	25V
C415	1-126-935-11	ELECT	470uF	20%	16V
C416	1-126-960-11	ELECT	1uF	20%	50V
C417	1-126-942-61	ELECT	1000uF	20%	25V
C418	1-104-664-11	ELECT	47uF	20%	25V
C419	1-104-664-11	ELECT	47uF	20%	25V
⚠C421	1-113-889-11	CERAMIC	0.001uF	10%	250V
		< CONNECTOR >			
* CN402	1-573-457-11	PLUG, CONNECTOR 6P			
		< DIODE >			
D401	8-719-077-63	DIODE 1N5402			
D402	8-719-077-63	DIODE 1N5402			
D403	8-719-077-63	DIODE 1N5402			
D404	8-719-077-63	DIODE 1N5402			
D405	8-719-200-02	DIODE 10E2			
D406	8-719-200-02	DIODE 10E2			
D407	8-719-200-02	DIODE 10E2			
D408	8-719-200-02	DIODE 10E2			
D409	8-719-991-33	DIODE 1SS133T-77			
D411	8-719-200-02	DIODE 10E2			
D412	8-719-200-02	DIODE 10E2			
D413	8-719-200-02	DIODE 10E2			
D414	8-719-200-02	DIODE 10E2			
		< FUSE >			
⚠F401	1-533-470-	FUSE, GLASS TUBE (DIA. 5) (T3.15AL/250V)			
⚠F402	1-533-468-	FUSE, GLASS TUBE (DIA. 5) (T2AL/250V)			
		< TRANSISTOR >			
Q401	8-729-820-24	TRANSISTOR	2SC3330-T		
Q402	8-729-116-82	TRANSISTOR	2SD1616-L		
Q403	8-729-119-76	TRANSISTOR	2SA1175-HFE		
Q404	8-729-116-82	TRANSISTOR	2SD1616-L		
		< RESISTOR >			
R402	1-247-839-11	CARBON	2.2K	5%	1/4W
R403	1-249-441-11	CARBON	100K	5%	1/4W
R404	1-249-393-11	CARBON	10	5%	1/4W
R405	1-249-421-11	CARBON	2.2K	5%	1/4W
R410	1-249-410-11	CARBON	270	5%	1/4W
R411	1-249-393-11	CARBON	10	5%	1/4W
⚠R412	1-216-478-11	METAL OXIDE	390	5%	3W F

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

POWER

Ref. No.	Part No.	Description	Remark
		< RELAY >	
⚠RL401	1-755-446-11	RELAY	
		< TRANSFORMER >	
⚠TR402	1-437-462-11	TRANSFORMER, POWER	
		< DIODE >	
ZD401	8-719-109-97	DIODE RD6.8ES-B2	
**********			
		MISCELLANEOUS	
		**********	
⚠6	1-555-750-00	CORD, POWER	
8	1-823-170-11	CORD (WITH CONNECTOR) (FM ANT)	
64	1-796-190-11	DECK, MECH	
157	1-471-144-11	MAGNET	
166	1-796-189-11	MECH, CD	
SW600	1-692-960-21	SWITCH, PUSH (1 KEY) (OPEN/CLOSE)	
⚠TR401	1-437-463-11	TRANSFORMER, POWER	
**********			
		**********	
		HARDWARE LIST	
		**********	
#1	7-685-534-14	SCREW +BTP 2.6X8 TYPE2 N-S	
#2	7-685-647-14	SCREW +BVTP 3X10 TYPE2 SLIT	
#3	7-682-246-04	SCREW +K 3X5	
#4	7-685-535-14	SCREW +BTP 2.6X10 TYPE2 N-S	
#5	7-685-648-14	SCREW +BVTP 3X12 TYPE2 SLIT	
#6	7-685-504-19	SCREW +BTP 2X6 TYPE2 N-S	
#7	7-623-916-21	FIBER WASHER 3.3, SMALL	
#8	7-685-233-19	SCREW +KTP 2.6X6 TYPE2NON-SLIT	
#9	7-624-106-04	STOP RING 3.0, TYPE -E	
#10	7-685-533-19	SCREW +BTP 2.6X6 TYPE2 N-S	
#11	7-685-135-19	SCREW (+ PTPWH) (2.6X10)	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

MEMO

REVISION HISTORY

Clicking the version allows you to jump to the revised page.
Also, clicking the version at the upper right on the revised page allows you to jump to the next revised page.

Ver.	Date	Description of Revision
1.0	2001.05	New
1.1	2002.10	Correction of “CD CABINET SECTION” on EXPLODED VIEWS (SPM-02099)